# THE <br> OXYRHYNCHUS PAPYRI <br> Volume LXVI 

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## PREFACE

The first part of this volume continues our publication of theological texts from volume LXV. The major item here comprises the extensive remains of a codex of Revelation, edited by Dr Chapa (4499); dating from the late third or the fourth century AD , this papyrus is the oldest surviving witness for portions of Revelation. Smaller fragments, edited by Dr W. E. H. Cockle, include pre-Constantinian texts of Luke, Romans and Hebrews. Allocated $\mathfrak{F}$-numbers are given below the inventory numbers.

The literary texts divide into three groups. In Part II Parsons edits two related papyri of epigram; of the six poems, one is known from the Palatine Anthology and there attributed to Nicarchus, the satirist of the early Empire; the five new poems are probably his as well. Dr Obbink edits five papyri in which Anoubion, astrologer and aspiring didactic poet, hammers out horoscopes in elegant elegiacs. Part III contains papyri of Comedy: two further fragments of New Comedy (4522-3); two prose texts concerned with Aristophanes (4508-9); twelve papyri from known plays of Aristophanes himself $(\mathbf{4 5 1 0}-\mathbf{2 1})$, which confirm some modern conjectures, demonstrate the antiquity of some 'late' variants, and illustrate the uniformity of the colometric tradition. 4508-21 are all edited by Dr Gonis and originally formed part of his Oxford University doctoral thesis.

Part IV brings together twenty-one assorted documents, the work of seven differen editors, ranging in date from the first century to the seventh century ad. Notable among these are 4527, seemingly with the total revenue in wheat for a year from one of the three divisions of the Arsinoite nome; $\mathbf{4 5 2 8}$, a report of public doctors which complete XIII 4366; 4537-8, with measurements and technical details of irrigation works, edite by Dr Syrcou, and five invitations to various festivals edited by Dr Montserrat. Both of the last two groups derive from doctoral theses written at University College London the last two groups derive from doctoral the

The literary index has been compiled by Dr Gonis; Coles has prepared the documentary indexes and co-ordinated the whole

We are again specially grateful to the Rev. Dr David Parker for his advice on the New Testament texts 4494-4500. Thomas acknowledges the continued support of the Leverhulme Trust

We are as ever indebted to the staff of The Charlesworth Group, whose energies have facilitated the publication of this volume so soon after its two predecessors.
R. A. COLES

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| JLCM = J. L. Calvo Martínez | EWH = E. W. Handley | US = U. Schlag |
| :--- | :--- | :--- |
| JC =J. Chapa | WBH =W. B. Henry | PS = P. Schubert |
| WEHC =W. E. H. Cockle | DM $=$ D. Montserrat | AS =A. Syrcou |
| TF =T. Finney | DO =D. Obbink | JDT =J. D. Thomas |
| NG $=$ N. Gonis | PJP =P. J. Parsons |  |

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## NOTE ON THE METHOD OF

PUBLICATION AND ABBREVIATIONS
The basis of the method is the Leiden system of punctuation, see $C E 7$ (1932) $262-9$. It may be summarized as follows:
$a \beta \gamma \quad$ The letters are doubtful, either because of damage or because they are otherwise difficult to read
Approximately three letters remain unread by the editor
$[\alpha \beta \gamma]$ The letters are lost, but restored from a parallel or by conjecture
[ $\quad \alpha \beta \gamma]$ Approximately three letters are lost
( ) Round brackets indicate the resolution of an abbreviation or a symbol, e.g. ( $\dot{\rho} \rho \tau \alpha \dot{\beta} \eta$ ) represents the symbol,$- c \tau \rho(\alpha \tau \eta \gamma o ́ c)$ represents the abbreviation $c \tau \rho$ )
$\llbracket \alpha \beta \gamma \rrbracket$ The letters are deleted in the papyrus
$\alpha \beta \gamma^{\prime}$ - The letters are added above the line
$\langle\alpha \beta\rangle \quad$ The letters are added by the editor
$\{a \beta \gamma\}$ The letters are regarded as mistaken and rejected by the editor
Heavy arabic numerals refer to papyri printed in the volumes of The Oxyrhynchus Papyri.

The abbreviations used are in the main identical with those in J. F. Oates et al., Checklist of Editions of Greek Papyri and Ostraca, $4^{\text {th }}$ edition (BASP Suppl. No. 7, 1992). It is hoped that any new ones will be self-explanatory.

## I. NEW TESTAMENT

## 4494-4500.

The apparatus criticus in the texts which follow is based on Nestle-Aland, Nouum Testamentum Graece, 27th edition (Stuttgart 1993), with occasional further information from Tischendorf, Editio octava critica maior (Leipzig 1869-1894), and von Soden, Die Schriften des neuen Testaments (Göttingen 1911-1913). Symbols used in the apparatus follow Nestle-Aland ${ }^{27}$ and the supplements are also taken from this edition, except where otherwise indicated. References to Turner in the introductions are to E. G. Turner, The Typology of the Early Codex (Philadelphia 1977). We are greatly indebted for advice, especially on the collating, to the Rev. Dr David Parker.
4494. Matthew $\mathrm{X}_{13-14,} 5^{-27}$

This fragment of a papyrus codex is written in a carbon ink in a handsome hand which slopes to the right. It is an example of the type of bookhand which Guglielmo Cavallo calls 'la maiuscola di tipo ogivale inclinato' (Ricerche sulla maiuscola biblica, Firenze 1967, 118-19), whose characteristics are set out under the heading 'écriture littéraire penchée vers la droite' by William Lameere, Aperçus de paléographze homérique, ParisBrussels 1960, 178-9. It is largely bilinear, being $2.5-3 \mathrm{~mm}$ high, and is written with a narrow, pointed pen. Phi, beta and upsilon extend above and below these limits. It has mannered serifs and no ligatures. Particularly to be noted is the roundel of phi, which is a flattened oval 6 mm wide. Upsilon is written in a single movement, beginning at top left, proceeding to top right and then descending to the foot with a final flourish to the left. The bow of omega is flattened. Epsilon and theta have extended cross-bars. Early examples of similar hands are P. Chester Beatty I $\left(\mathfrak{P}^{45}\right)$, assigned to the third century, and P. Flor. II Io8, whose omega, xi and alpha with rounded bowl are comparable, this has an item from the Heroninus archive on the verso and hence must have been written not later than the mid third century. However, the exaggerated width of phi and alpha with the knotted top suggest a later date for $\mathbf{4 4 9 4}$. XV 1778, assigned to the fourth century, has a similar phi, but the hand is slightly less inclined to the right; and dated documents from the Theophanes archive of c. 320 (GMAW $70 ;$ GBEBP 2a) would provide a suitable context.

Inorganic tremata are placed over $v \mu \omega \nu$ in $\downarrow_{3}$ and 6 (see $G M A W^{2}$, pp. 10-11). Apostrophes are found in $\beta_{\epsilon \in \lambda} \lambda^{\prime} \zeta \epsilon \beta$ ov久 in $\rightarrow 3$ (cf. GMAW ${ }^{2}$, p. II), $\epsilon \kappa$ ' $\mu \alpha \xi \alpha \tau \epsilon$ in $\downarrow 7$ and after ovk in $\rightarrow 6$. Rough breathings occur in $\rightarrow 2$ bis, 6 and 7 . Low stops are placed in $\downarrow_{4}$ and $\rightarrow 2,4$ and 5 . The only abbreviations are $a v \tau \bar{\eta}$ in $\downarrow_{2}$ and the nomen sacrum $\overline{\kappa c}$ in $\rightarrow 2$.

The number of letters per line varies considerably, on $\rightarrow$ from 25 to 32 , and on from 23 to 31, hence only a rough estimate can be made of the number of lines per age. If we suppose an average of $24-26$ letters per line and a normal text, there were probably some $40-43$ lines per page. The width of the minimum surviving right-hand margin on $\downarrow$ is 5 mm . No top or bottom margins survive. This suggests on the $\downarrow$ side a written area of approximately $1 I \times 20 \mathrm{~cm}$, and an overall page measurement of $12 \times 22 \mathrm{~cm}$. These estimates would fall within Turner's Group 8 .

The only text in the papyrological collections to overlap with 4494 is ог7ı $=$ P. Berol. $11863+$ PSI I $2+$ PSI II 124 , a parchment codex assigned to c. AD 300.4494 has several unique readings, some of which, but certainly not all, may be due to scribal arelessness. In addition to the works mentioned in the general introduction, S. C. E Legg, Euangelium secundum Matthaeum (Oxford 1940), and, for the Old Latin, A. Jülicher, Itala: Das Neue Testament in altlateinischer Überlieferung I (revised by K. Aland; Berlin 1972), have been consulted
$\downarrow$
$[\epsilon \phi$ v $\mu a c \epsilon \pi \iota c] \tau \rho a \phi \eta \tau \omega$. каı ос $\epsilon \alpha \nu \mu \eta$

$[\nu \mu \omega \nu \epsilon \xi \epsilon] \rho \chi о \mu \epsilon \nu \omega \nu \ddot{v} \mu \omega \nu \tau \eta \subset$ oь

$[\tau \epsilon \tau о \nu$ коvıoр $\tau о] \nu \alpha \pi о \tau \omega \nu \pi o[\delta \omega \nu$


 oוкıove avтov. $\mu \eta$ ovv $\llbracket \beta \rrbracket \dot{\phi}[o \beta \eta \theta \eta \tau \epsilon]$
5 avtovc. ои $\delta \epsilon \nu \gamma \alpha \rho \in \subset \tau \iota \nu[\kappa \epsilon к а \lambda \nu \mu \mu \epsilon]$ vov o оvк’ атока入vфө[ $\eta с є \tau \alpha \iota ~ к а \iota]$


## 4494. MATTHEW X 13-14, 25-27

3

${ }_{2}$ All other MSS include $v \mu a v$ after $\epsilon \rho \eta \nu \eta$ (as in line 3 ).

解 for the space.
 participle could have agrecd with the subject of the sentence see N. Turncr, $A$ Grammar of New Testament Greek ${ }^{17}$ Göttingen 1990), § 423

Before $\tau \eta$ © \& D D 33 . I57 pc, supported by several versions, insert $\epsilon \xi \omega$.
 B and most vg , sa and bo.

 al) and $\tau \omega \nu \pi \pi \delta \omega \nu$ (B D and most MSS). The Old Latin MSS mostly read de pedibus vestris; k has a pedibus

$\rightarrow 2-3 \epsilon \pi \epsilon \kappa \alpha] \lambda \epsilon \subset[\epsilon]]^{\prime} a^{\prime} \nu$ B $\in \epsilon \lambda^{\prime} \zeta \epsilon \beta$ Boud: all other MSS have the words in the reversc order, except k which
 $0171 f^{1} 700.1424$ рm; калоvсн D. Either єтєкалесар or єкалєєар could have been the reading of the papyrus, 3 Beє $\lambda^{\prime} \xi \in \beta$ poud: zeta corrected from sigma. This, or similar, is the reading of $\mathrm{C}(\mathrm{D} \mathrm{L}) \mathrm{W} \Theta f^{1.13} 33 \mathfrak{M}$

 first, with the final iota then corrected to upsilon; but it is more likely that the upsilon was merely re-inked.
W. E. H. COCKLE
4495. Luke xvil li-is; 22-23

$2.9 \times 4.8 \mathrm{~cm}$
Third century Plates I-I

The text of this papyrus codex fragment is written in a carbon ink in an upright, semi-documentary hand, which can be assigned to the third century, most probably the first half. Several of the letter-forms resemble those used in P. Giss. 40 (Plate VI) of AD 215 . The letters are $2-2.5 \mathrm{~mm}$ high and there are several ligatures. There are no breathings or punctuation, and the only nomen sacrum preserved is $\overline{\mathrm{mv}}$ in $\downarrow 4$. If the text as supplemented is correct there are $32-34$ letters per line on the $\downarrow$ side and 31-32 on the $\rightarrow$ side. This would suggest a page of $21-22$ lines of text

Since no margins survive, the position of the fragment within the column of text is uncertain and the supplements at left and right are exempli gratia only. In addition to the works cited in the general introduction The New Testament in Greek: the Gospel according to St Luke II (Oxford 1987), and, for the Old Latin, A. Jülicher, Itala: Das Neue Testament in altateinischer Uberlieferung III (revised by K. Aland; Berlin 1976), have been consulted.

The only other papyrus to preserve this section of the Gospel is $\mathfrak{P}^{75}=\mathrm{P}$. Bodmer XIV + XV assigned to the third century. The only certain difference between 4495 and $\mathfrak{P}^{75}$ is at $\rightarrow 2-3$, where $\mathbf{4 4 9 5}$ agrees with D.
$\downarrow$

[ $\epsilon \iota \subset \tau v \nu \alpha \kappa \omega \mu \eta \nu]$ a $\alpha \eta \nu \tau \eta \subset[\alpha \nu$ avt $\omega$ i $\lambda \epsilon \pi \rho \circ \iota \alpha \nu]$

$[\phi \omega \nu \eta \nu \lambda \epsilon \gamma o \nu \tau \epsilon] \varsigma \overline{\iota \eta v} \in \pi[\lfloor\iota \tau \alpha \tau \alpha$
]. [.] $\pi \rho \rho[$ [ тovc $\mu a \theta \eta$ ]
[ $\tau \alpha c \in \lambda \epsilon v c o v \tau \alpha \iota ~ \eta] \mu \in \rho \alpha \iota ~ \tau o v \in \pi$ [ $1 \theta v \mu \eta<\alpha \iota]$ $[v \mu a c \mu \iota \nu \tau \omega \nu \eta] \mu \epsilon \rho \omega \nu$ тov [viov $\tau o v \overline{a \nu o v}]$

( ecce (similarly sy ${ }^{\sqrt{c} \cdot c}$ ).
an a word or a figure.
as a word or a figure.


 be eta; we can t

 and versions.
 or $-(\eta \tau \epsilon) \mathfrak{P}^{75} \times \mathcal{A}$ B L and most MSS.
3. It is probable that avөpowtov was abbreviated, but less certain that the same is true of viov (cf. A. H. R.E it also followed D in omitting $\delta \delta \epsilon \nu$.
$40 \downarrow]$ ecte: so $\mathfrak{P}^{75}$ and most MSS; oucc $\theta a \iota$ N A D N R W al.
 hesc could have been the reading of the papyrus. It did not read $\omega \delta \varepsilon \varepsilon \delta \frac{\delta}{} \in \kappa \in \epsilon$ with $\mathrm{D} \mathrm{W} 33, a l$, supported
 pc, supported by most Old Latin MSS, or $\omega \delta \in \eta \in \epsilon \kappa \epsilon \iota$ with $f^{13}$, supported by one Old Latin MS (1).

## 4495. LUKE XVI 11-13. 22-23

5
After $\omega \delta \epsilon$ most MSS have $\mu \eta$ a $\pi \epsilon \lambda \theta \eta \tau \epsilon \mu \eta \delta \epsilon \delta \delta \omega \xi \eta \tau \epsilon . \mathfrak{P}^{75} \mathrm{~B} f^{13}$ and thc Sahidic omit $a \pi \epsilon \lambda \theta \eta \tau \epsilon \mu \eta \delta \epsilon ; f^{11}$, Atter by sylug, reads $\mu \eta \pi \iota c \tau \epsilon \nu \subset \eta \tau \epsilon ; 579$ pc read $\mu \eta \xi \xi \in \lambda \theta \eta \tau \epsilon$. The trace surviving after $\mu \eta$ is too sligh o be decisive.
W. E. H. COCKLE
4496. Agts of the Apostles XXVI 31-32; XXVII 6-7

## 100/126(a) $\beta^{112}$

$5.2 \times 5.2 \mathrm{~cm}$
Fifth century
Plates I-II
A fragment of a papyrus codex containing parts of four verses from chapters 26 and 27 of Acts. The hand is a large and carefully executed Biblical Majuscule; see on this script G. Cavallo, Ricerche sulla maiuscola biblica (1967). Although somewhat reminisent of fourth-century hands, e.g. Sinaticus and Vaticanus, it is heavier and more mannered, with marked chiaroscuro, and is thus closer to several hands assigned to the , Gavallo and Maehler, GBEBP ( 487 ) $8 \mathrm{a}, 18 \mathrm{~b}, 24 \mathrm{a}$, and Codex fifth century, Alexandrinus. On the other hand, the shading is less extreme, and the finials on horizontal elements less marked, than in the Vienna Dioscorides (GBEBP 25b), which can be dated c. AD 5 I3.

On the $\rightarrow$ side the papyrus has 17 -20 letters per line and on the $\downarrow$ side $19-23$ if the restorations are correct. If we assume a normal text, some 5 I 5 letters will have been lost between the two sides or approximately 26 lines. This would give a page of some 34 lines, assuming that we have a fragment of a single-column codex. The average line height is just over 7 mm and a typical line would have been 12 cm wide, judging by the size of the surviving letters. If we allow 3 cm for margins on all sides, a singlecolumn page would have measured approximately $18 \times 31 \mathrm{~cm}$. This fits reasonably well into Turner's Group 5, which includes many $4^{\text {th- and }} 5$ th-century papyri along with a 6 the or 7 th-century codex of Acts $\left(\mathfrak{P}^{74}=\mathrm{P}\right.$. Bodmer XVII). A double-column codex in which the fragment occupied the outer column would have measured approximately $33 \times 31 \mathrm{~cm}$. This very broad format is unlikely but not impossible; a few examples in Turner's Group 2 have somewhat similar dimensions.

If this was a single-column codex, a typical page would have held about 120 words Consequently, about i6o pages would have been required for Acts alone or about 220 pages for Acts and the Catholic Epistles. Both of these are plausible ( $\mathfrak{P}^{45}$ is estimated to have had some 220 pages). A combination such as Gospels + Acts can be ruled out by the enormity of the number of pages required (even if we suppose a two-column codex). The combination Pauline Epistles + Acts is also too great if the codex had only a single column.

There is one nomen sacrum abbreviation, $\overline{\text { avoc }}(\rightarrow 4)$, a stop which stands at two- is the earliest Greek witness to an addition at the end of verse 32 .

In addition to the works cited above in the general introduction J. H. Ropes, The Text of Acts=Vol. III of F. J.. Foakes Jackson and Kirsopp Lake, The Beginnings of Christianity (1926), and M.-E. Boismard and A. Lamouille, Texte occidental des Actes des Apôtres (1984), have been consulted. As D is not extant for this section of Acts, h has been cited where relevant.
$\rightarrow$
[ $\alpha \nu \alpha \chi \omega \rho] \eta \subset \alpha[\nu \tau \epsilon c \in \lambda \alpha \lambda o v \nu]$

[ $\theta a \nu \alpha \tau o] v \geqslant \delta \epsilon c \mu \omega \nu[\alpha \xi \iota o v]$
[ $\pi \rho$ ассє $]$ ] а аVOc оvто $[c]$
$5 \quad[\epsilon \iota \mu \eta \epsilon \pi] \epsilon \kappa \epsilon \kappa \lambda \eta \tau\left[\begin{array}{lll}o & \text { Kaıca] }\end{array}\right.$
$[\rho \alpha \kappa \alpha \iota o v] \tau \omega c \in \kappa \rho \iota[\nu \in \nu \quad$ о]
[ $\eta \gamma \epsilon \mu \omega \nu]$ avтov $\alpha \nu[a \pi \epsilon \mu]$
[. . . . .].].[.].[

In 4496 the supplement at the end of line 4 is very short, but to transfer $\epsilon$ to this line would make the supplement at the start of line 5 too short. Perhaps the end of line 4 was left blank since verse 3 I finishes at
this point. A further oddity is the superscript bar which extends to the left of azoc over the omicron before it.

 ${ }^{\text {avarfempau Kaccape. After Caesarem } \mathrm{h} \text { reads et ita legatus mitti eum Cafesari iudicauit]. A similar addition is supported }}$ by several Old Latin MSS and by sy shm (syp has a clause meaning 'and Festus gave orders concerning him

$\downarrow \downarrow-2$ The supplements at the right are rather long, but final nu may have been written as a superscript bar or the letters may have been miniaturised at line ends.
 read ave $\beta$ ißacev,


 nauigaremus per aliquod [tempus, supporting the papyrus' transposition along with syr ${ }^{P}$ eth ${ }^{\text {hass. }}$. Further complications are that there might be room for $\beta \rho \alpha[\delta \nu \pi \lambda o o \bar{v}$ in line 3 , and the trace before $\epsilon \nu$ docs not suit sigma very well. Possibly this is to be understood as a mark to indicate an error in the MS or perhaps the papyrus had Below line 7 there are a darkening at the edge of the papyrus.
4497. Epistle to the Romans ii $12-$ - 3 , 29

| ${ }_{\mathfrak{B}} \mathrm{A}^{113}$ | $2.7 \times 2.4 \mathrm{~cm}$ |
| :--- | ---: | | Third century |
| ---: |
| Plates I-II |

This tiny codex fragment is written in carbon ink in a neat severe style, largely bilinear; XXXII 2619 may be compared, and to a lesser extent the heavier LX 4041, a roll but with similar narrow columns.

High stops occur in $\downarrow 3$ and 4 and probably in $\rightarrow 2$. There are two rough breathings in $\downarrow 4$. The nomen sacrum $\overline{\pi v L}$ occurs in $\downarrow 3$. A line filler of diple form is used at the end of $\rightarrow 2$.

As supplemented the number of letter spaces per line ranges from II-13. If we assume a normal text, the number of lines missing between the end of $\rightarrow 4$ and the beginning of $\downarrow_{I}$ is c. roo, which would make a column of c. 104 lines if no columns intervene between the text of $\rightarrow$ and $\downarrow$. Since 4 lines occupy a vertical space of 2 cm , a single-column written area would measure c. $4-4.5 \mathrm{~cm}$ broad by 50 cm deep, which looks impossibly eccentric. Unless, therefore, we do not have a continuous text but some sort of lectionary, we must suppose there to have been either two or three columns to the page. In Table 8 in Turner's Typology, ro1-185, a list of codices consulted, the
only two secure three-column codices listed (out of over inoo consulted) are both parchment codices assigned to the fourth century, PSI II I29, Demosthenes, and Codex Vaticanus Gr. $1209=\mathrm{B}$; a further possible three-column codex is Codex Vaticanus Gr 1288, Cassius Dio, assigned to the fifth century. As three-column codices are so rare and none is as early as 4497 , it is more likely that 4497 is from the inner (spine) part of a two-column codex, implying c. 35 lines to the column. The relatively few twocolumn NT MSS datable before 400 all have less than 40 lines to the column (cf. K. Aland, Kurzgefaßte Liste der griechischen Handschriften des Neuen Testaments ${ }^{2}$ ). The written area of a double-column page with its intercolumnium would measure c. $10-11 \mathrm{~cm}$ broad by 17 cm deep. Assuming margins of say 2 cm , this would imply a codex $14-15 \mathrm{~cm}$ wide by 21 deep, which would fall into Turner's Group 7 (p. 19). No top or bottom margins survive so that the position of the fragment within the column is unknown.

For the collation, in addition to the works cited in the general introduction, account has been taken of K. Junack et alii, Das Neue Testament auf Papyrus II. Die Paulinischen Briefe, Teil I (Berlin-New York 1989). No other papyrus of Romans so far published contains these passages.
$\left.\nu_{0}\right] \mu o v \kappa \rho \iota$
ii 12
$[\theta \eta<o v] \tau \alpha!\cdot o v>$
[ $\gamma$ ар oı $\alpha]$ кроат $[\alpha i]$
$\left[\begin{array}{lll}\text { vouov } & \delta l\end{array}\right] \kappa \alpha \iota[o l]$
$\downarrow \quad \kappa] a!\pi[\epsilon \rho \iota \tau \circ]$
$\mu \eta \kappa \alpha[\rho \delta \iota a c \epsilon \nu]$
$[\bar{\pi}] \overline{v l}$. ov $[\gamma \rho \alpha \mu \mu a]$
$[\tau] \cdot \circ$ où [ō enaivoc]
5
[o] $<\kappa$ [
$\rightarrow 2$ The final letter of kpit $\quad$ coovat is smudged and may have been altered. There is probably a high point after it.
4 Spacing indicates that the papyrus followed $\mathcal{N}$ A B D G $\Psi a l$ in omitting rov before vouov, which is added by K L o49 056 or $4^{2}$ or 51 and many minuscules.
$\downarrow 4$ A trace of the rough breathing over $o$ is visible. This proves that the papyrus followed the majority
of MSS in reading o emaupoc; it did not follow o5 6 or 42 pc in omitting $o$.
4498. Epistle to the Hebrews i 7 -12

A small fragment from the bottom of the first page of the Epistle to the Hebrews. Although there is no writing visible on the $\downarrow$ side, there is every reason to suppose that the papyrus formed part of a codex. (Two papyri of Hebrews, $\mathfrak{P}^{12}$ and $\mathfrak{B}^{13}$, are indeed written on rolls, but in both cases the other side of the roll is used for a different text.) It is most probable that the text of $\mathbf{4 4 9 8}$ began on the $\rightarrow$ side and the $\downarrow$ side was either blank or contained only the title; for a parallel cf., e.g., $\mathfrak{p}^{23}=\mathrm{X} \mathbf{1 2 2 9}$, Epistle of James. It is written in carbon ink with a fine pointed nib in a rather small, upright, angular hand $2-3 \mathrm{~mm}$ high. The script is largely bilinear, but rho and upsilon drop below the line; note the contrast between broad and narrow letters, the small omicron and the flattened bow of omega. There are no ligatures or serifs. Somewhat comparable hands are I 23, which must predate AD 295, XXXIV 2700, on which the editor remarks 'the hand belongs to a type common in the third century', and XLII 3008 (although 4498 is less obviously related to the so-called Severe Style). No use is made of punctuation or breathings. The nomen sacrum for $\theta \epsilon o c$ occurs in lines 2 and 5 .

If we ignore line 5 , the line lengths can be supplemented within the range 36 to 42 letters (but see line 2 n .). This suggests that approximately ${ }^{1} 7$ lines have been lost before the first surviving line, which would give a column of 27 lines, with a written area of approximately $10 \times 18 \mathrm{~cm}$. If we assume a single-column page and make the usual allowance for margins (the left-hand margin survives to 2 cm ), the codex would fall within Turner's Group 7 (c. $15 \times 25 \mathrm{~cm}$ ).

The papyrus provides no evidence for the placing of Hebreves within the New Testament, for which see W. H. P. Hatch, HThR 29 (1936) I 33-55, and B. M. Metzger, The Canon of the New Testament (Oxford 1987), 298, with further bibliography. The surviving text is unremarkable except for line 5. In addition to the works cited in the general introduction, account has been taken of K. Wachtel, K. Witte, Das Neue Testament auf Papyrus II. Die paulinischen Briefe, Teil 2 (Berlin-New York 1994). The only other papyrus to contain this passage is $\mathfrak{B}^{46}=\mathrm{P}$. Mich. inv, $6238+\mathrm{P}$. Chester Beatty II, assigned to c. AD 200 .

[^0]$\rho \omega \nu \operatorname{cov}$ [є८c८v oı ovpavoı avtoı amodovvтaı cv $\delta \epsilon \delta \iota a]$



I voo may of course have been abbreviated (as in $\mathfrak{P}^{46}$, but see $4495 \rightarrow 3$ n
2 Most MSS read rov atwva cov atavoc, Spacing suggests that $\mathbf{4 4 9 8}$ is likely to have followed B 33 ,



 has merely transposed the words $\operatorname{cov}$ o $\bar{\theta}$; but this would result in a supplement which is 5 or more letters too long for line 5 and we should have to suppose that there was some omission, e.g. of cov or cat cu before кат архаc. It may well be that the papyrus had a hitherto unattested variant reading at this point.


W. E. H. COCKLE

## 3

4499. Revelation il i-3, i 3 - $15,27-29$, ili io-12, v $8-9$, vi $5-6$, viit $3-8$, i i-ix 5
 Іо-1 I, $14^{-15}$, I8-xv 1, $4^{-7}$
${ }_{\mathfrak{P}}{ }^{1158}{ }^{15(a)}$
fr. (e) $6.2 \times 6.3 \mathrm{~cm}$ Late third or early fourth century
Plates III-VIII, XI-XII

Numerous fragments from a papyrus codex provide scattered but extensive portions of the book of Revelation. The codex is of particular interest because of the relatively low number of manuscripts in the textual tradition of this book (compared to other New Testament writings), the amount of text preserved and its relatively early date.

The codex is written in a medium size, right-sloping (sometimes upright), rather informal hand, rapidly but regularly written. Although letters in the main are made separately, the hand tends to be somewhat cursive, especially alpha and omega. Delta has its descending diagonal capping the left-hand one, iota keeps normally to the base of the line, alpha is made in one movement, mu with uprights almost parallel and straight and its middle curve normally reaching the base line, omicron small and suspended; the plump theta has its cross-bar projecting to both sides; rho, phi, chi and psi reach below the lower line, sometimes kappa and upsilon as well. This manner belongs within Turner's 'formal mixed' group (GMAW ${ }^{2}$ p. 22) or Cavallo-Maehler's 'sloping pointed majuscule' (GBEBP p. 4).

Informal examples of this common style are difficult to date with any precision. Among objectively datable parallels, we may compare P. Flor II ro8 and 259 (Roberts, GLH 22a, d), from the Heroninus Archive, mid-third century; VII 1016 (Turner, GMAW ${ }^{2}$ 84), also mid or later third century (see LVII 3882 introd.); and P. Herm. 4 (Plate $3 \mathrm{~b}=$ Cavallo-Maehler, GBEBP 2a), from the archive of Theophanes, c. AD 3 $5 / 25$. For 4499 a date in the late third century or early fourth seems likely.

The spelling shows some itacisms ( $\alpha \iota$ for $\epsilon$ and o for $v$ as well as $\epsilon \iota$ for $\iota$ and $\iota$ for $\epsilon \iota$ ). A diaeresis appears regularly over initial iota and upsilon. Diastole must also have been regular and is still visible in $\epsilon \xi \eta \lambda^{\prime} \mid\left[\theta o v\right.$ (page 14, line 42), a $\gamma^{\prime} \gamma \in \lambda[$ ov (page 16, line 129), $\alpha \gamma]^{\prime} \gamma \in \lambda_{\text {ov }}$ (page 16, line 133) and $\alpha \pi \eta \lambda^{\prime} \mid[\theta \epsilon \nu$ (page 18 , line 18 r ). Punctuation is by high point or by the use of a blank space. Usually, but not always, these mark the start of a verse (it is no doubt mere coincidence that all the spaces preserved precede $\kappa \alpha i$, since so many verses in Revelation begin with кaí). Final nu occurring at the end of a line is often represented by a horizontal dash written over the letter. Some corrections are made by the scribe's own hand. Others seem to be the hand of a corrector in an ink which is now brown. Cardinal numbers are normally, though not always, written as figures, and the same may apply to some instances of ordinals. The following nomina sacra are attested: $\imath \eta \lambda, \theta \nu, \theta \nu, \overline{a \nu \omega v}, \overline{a v o v}, \overline{\pi v a}, \overline{\kappa v}, \overline{o v v o v}, \overline{o v \nu \omega}$. Note R. C. Nevius, 'Papyri Witnesses to the Text of the Nomina Sacra in the Apocalypse', Akten des 2 I. Int. Papyrologenkongresses II 750-755.

The extant fragments come from nine different leaves. By reckoning the number of letters to a page, one can estimate that the first surviving fragment would have come from page 3 if the quire began with the book of Revelation, with its title on the firs page probably in larger letters. For convenience of reference this assumption has been made, but it must be stressed that no evidence survives from the codex itself that the pages were numbered and so there is no proof that the page referred to as 'page 3 ' was indeed the third page and not a later page from a larger codex. The sheets of papyru before folding were laid with the vertical fibres side uppermost. From pages 3 to io the sequence is $\rightarrow$ on the odd pages and $\downarrow$ on the even. From page 13 onwards (there are no fragments from pages II-12) the sequence is $\downarrow$ on the odd pages and $\rightarrow$ on the even. This means that the folding of a quire of five or six sheets was done between pages $10^{-11}$ or $12-13$. Considering that we have fragments from pages 23 and 24 , it is easier to think that all the pages belonged to the same quire and that the folding was done between pages 12 and I3. It is not possible to know whether the codex contained only the book of Revelation or something more. The addition of a 'binio', for example, after a 'senio' would be possible, for 'biniones' occur mixed with larger gatherings (E. G Turner, The Typology of the Early Codex, Philadelphia 1977, 6r), but codices containing several books are also common

On pages 15 and 16 the first and last lines of the page are preserved, and probably also on pages 13 and 14; possibly the first and last lines are also preserved on other pages. Assuming a normal text, the average number of lines to the page can be estimated
at between 33 and 36 , and the average number of letters to the line between $29 / 30$ and $43 / 44$. The area of the written text in the most complete pages can be estimated at c. $12.5 \times 20 \mathrm{~cm}$, but it must have been somewhat variable. A top margin of 1. 5 cm , almost 1 cm below, and a margin of 2 cm to the left and $I \mathrm{~cm}$ to the right on an evennumbered page are preserved. If we assume that the lower margins are to the upper ones in a proportion of $3: 2$ (cf. Turner, Typology 25), the lower margin would have been larger than the 1 cm visible, $c .2 .25 \mathrm{~cm}$. Thus, the codex might have had at least a size of $15.5 \times 23.5 \mathrm{~cm}$. This format of codex would fall into Turner's Group 7 (Typology 19).

The scribe may have copied his text in an already bound codex. This is suggested by the different width of the written area on $\rightarrow$ and $\downarrow$, especially on some pages. The width of the pages which have the binding to the right-hand side (even pages) tends to be narrower than those which have the binding to the left-hand side (odd pages): e.g. 37 letters to the line on page 13 against 35 on page $14 ; 37$ on page 17 against $30 / 1$ on page 18 (but page 23 is likely to have had only $29 / 30$ against 34 on page 24). The difficulty of writing on the right-hand side of the left-hand page if the codex is already bound could explain the difference.

So far, in the papyrological collections, there have been published six papyri of Revelation: $\mathfrak{P}^{98}$ (second? century = P.IFAO inv. $237 \mathrm{~b}=$ P.IFAO II 3 I, identified by D. Hagedorn in $Z P E 92(1992) 243-247), 93^{47}$ (third century $=P$. Chester Beatty III), $\mathfrak{F}^{18}$ (third/fourth century = VIII 1079), $\mathfrak{p}^{24}$ (fourth century = X 1230), $\mathfrak{P}^{85}$ (fourth/fifth century $=$ P. Stras. inv. $1028=Z$ PE $\left._{4}(1969) 181-182\right), \mathfrak{B}^{43}$ (sixth/seventh century $=$ P. Lond inv. $2241=$ Wadi Sarga 12), and four parchments: 0169 (fourth 1080), 0207 (fourth century =PSI X 1166), 0163 (fifth century $=$ VI 848), and 0229 (seventh/eighth century =PSI XIII I296). To these the parchment fragment $\mathbf{4 5 0 0}$ published below is to be added. With the exception of $\mathfrak{P}^{47}$, which contains almost eight complete chapters of the book of Revelation (ix 10-xi 3; xi 5-xvi 15 ; xvi 17-xvii 2) all these papyri and parchments are very fragmentary and contain only small pieces of text. The only overlaps, apart from $\mathfrak{B}^{47}$, are with $\mathfrak{P}^{24}\left(\mathrm{v} 5^{-8}\right.$, vi $5^{-8}$ ), $\mathfrak{P}^{85}$ (ix $19^{-\mathrm{x}} \mathrm{I}$, 5ex. 4500 (xi $5-18$ ) and 0207 (ix 2-I5). (It is remarkable that the $\rightarrow$ side of $\mathfrak{P}^{24}$ ends $5^{-9}$ ), , are in somewhat similar hands; but this can be no more than coincidence, since the $\downarrow$ af the fragmentary parchments quoted above, sides of the two papyri overlap.) Apart from the fragmer), A (o2) (fifth century), C (04) there are only seven majuscules: $\boldsymbol{\mathcal { N }}$ (or) (fourth century), A (02) (fitth century), (fifth century, which lacks i $1-2$; iii $20-\mathrm{v}$ I 4 ; vii $14-\mathrm{I} 7$; viil $5-1 \mathrm{x} \mathrm{16;} \mathrm{X}$ 10-xi 3 , x 13-xviii 2 ; xix 5 -end), P (025) (ninth century, which lacks xvi 12-xvii 1, xx 2 (xx 9, xxii 6-end), 05I (tenth century, which lacks i 1-xi 14; xiii 2-3; xxii 8-14), 052 (tenth century, which only contains vii 16 -viii 2 ), and 046 (tenth century).

4499 is the earliest known witness to some sections of Revelation. It is also the oost substantial papyrus to have survived apart from $\mathfrak{B}^{47}$. It consists of 26 fragments,
most of which, fragments (e) to (z), come from consecutive pages. Sufficient of these pages survives for it to be possible to estimate the number of lines lost between the fragments and this section has therefore been numbered continuously.

For the collation, in addition to the works cited above in the general introduction, H. C. Hoskier, Concerning the Text of the Apocalypse (London 1929), has been used. The supplements in the transcription, given for convenience, are from Nestle-Aland ${ }^{27}$ except where indicated.

Compared to other New Testament writings, the textual tradition for the book of Revelation is unique. For a recent general description see J. K. Elliott, FJTS, n.s. 48 (1997) ir6-124. See also K. and B. Aland, The Text of the Nere Testament ${ }^{2}$, 246-7, and Josef Schmid, Studien zur Geschichte des griechischen Apokalypse-Textes (1955-56).

There are four main text-types:
r. A C Oecumenius 20532344235 I.
2. $\boldsymbol{N}^{\text {a }}$ Andreas. The majority $(\mathfrak{P})$ text which follows Andreas is denoted by $\mathfrak{M}^{\mathrm{A}}$. P (025) usually belongs to this group.
3. Koine. The majority $(\mathfrak{M})$ text which contains this text is denoted by $\mathfrak{M}^{K} .046$ usually belongs to this group.
4. $\mathfrak{P}^{47} \mathbf{W}^{*}$.

The apparatus always cites $\mathfrak{P}^{47} \mathfrak{P}^{85}{ }^{\mathbf{N}} \mathrm{A} \mathrm{C} \mathrm{0207} ; \mathrm{P}(025)$ and 046 when they differ from their text-type; $\mathfrak{M}^{\text {A }} \mathfrak{M}^{\mathbb{K}}$ or $\mathfrak{M}$ (where the previous two agree). 20532344235 I are cited from Nestle-Aland ${ }^{27}$ (2344 is frequently illegible and therefore cannot always be cited). Evidence is not generally provided where members of a text-type disagree with their group reading. The evidence is mostly restricted to Greek witnesses. All abbreviations are those of Nestle-Aland ${ }^{27}$, except that Old Latin MS letters are prefixed by Lvt

A full statement on the textual affinities of the papyrus will have to await a detailed comparison with the data in Schmid and other sources. But a collation of it with C suggests that it is a representative of the A C text. Variants from it occur, by category as

> omission in 4499: x 4 , xii $4(?)$, xiii 8,13
> omission in G : $\times 2,8$, xii 14 , xiii $6,7,8$, 15 bis, xiv I (semel or bis), 2,3
> word order: xi 19 , xii 9
> wording: ix 19 , xi $5,9,18$, xiii $I(?), \mathrm{r}, \mathrm{I} 5$, xiv 6 , 20

There are also possible differences where $\mathbf{4 4 9 9}$ has space too small or too large for the C text. A number of these, including many of the omissions, are evidently due to error by the scribe of one of the two MSS. There are a few places where 4499 has a different text-type. There are also places where either a correction which may be by the first hand or an error suggests that the scribe of $\mathbf{4 4 9 9}$ knew or consulted a witness with a different text; these include xi 9 , xiv 6 , 15 . One point of particular note: at xiii 184499 (like C) gives the number of the Beast as 616, not 666. Irenaeus had found (and rejected) this reading in some of his MSS; 4499 is now our earliest surviving direct witness.

Pages 3 4: Fr. (a)
$\rightarrow$
5
$\downarrow$


 [ $\pi \iota \nu v \tau \omega \nu v i] \omega \nu \overline{\imath \eta \lambda}$ [фаүєıv $\epsilon \delta \omega \lambda о \theta v \tau \alpha$ каı $\pi о \rho]$
$5 \quad[\nu \in v \subset \alpha \iota$ ov $] \omega c \in \chi \in[\stackrel{L C}{ }$
Pages 5-6: Fr. (b)
$\rightarrow$
$\epsilon \pi \iota \tau \eta \subset \gamma \eta \subset \iota \delta o v \epsilon \rho \chi]$ оцаı $\tau a[\chi v$ кратєь о єХєıc $\imath \nu]$
$\pi \epsilon \rho \iota \pi] \alpha \tau \omega \nu \in[\nu \mu \epsilon c \omega$ ..... ii I
$\tau] a \in \rho \gamma \alpha \operatorname{cov}$2 o] $v \delta v \nu \eta[$ єav] тouc $\alpha \pi[$ остолоuc $v \pi o] \mu o \nu[\eta \nu$

$$
\text { ] . . }[
$$



$$
] \text { vaou } \frac{\omega}{\omega}[0] v[
$$

$$
] \kappa \alpha \iota[
$$

> ]. [
> $] \rho \alpha \beta \delta \omega \subset[\iota \delta \eta \rho \alpha \omega \subset \tau \alpha$ скєvך]
$[\pi \alpha \rho \alpha$ лоv $\overline{\pi \rho c} \mu o v \kappa \alpha \iota \delta \omega c] \omega$ $\alpha v \tau \omega[\tau о \nu ~ a c \tau \epsilon \rho \alpha ~ \tau o v] ~$

$$
\begin{aligned}
& {[\pi \rho \omega i v o v \text { о єХ} \omega v \text { ovc акоисатн } \tau]!\tau \circ[\overline{\pi \nu a}}
\end{aligned}
$$

Pages 9-10: Frr. (c) + (d)
$\rightarrow$




 $[\tau \omega \overline{\theta \omega} \epsilon \nu \tau \omega a]!\mu \alpha[\tau \iota$
$\downarrow$
]. [
$o \tau] \epsilon \eta \nu \circ[\iota \xi \in \nu$
 $[\kappa \alpha \iota$ o] $\kappa \alpha[\theta \eta] \mu \epsilon[\nu]$ ос $\epsilon \pi$ [avтov
] $\phi \omega \nu \eta[\nu \in \nu \mu \epsilon \subset \omega \tau \omega \nu \bar{\delta} \zeta \omega \omega \nu \lambda \epsilon \gamma \circ v]$
 $[\kappa \rho \iota \theta \omega \nu \delta \eta \nu a \rho \iota o v]$ ка! $[$

Pages I3-14: Frr. (e) to (i)
$\downarrow$
$] \delta \omega[c \epsilon]_{!} \tau \alpha[\iota c \pi \rho o c \epsilon v \chi a \iota c \tau \omega \nu$ a $\tau \iota \nu \pi \alpha \nu \tau \omega \nu \epsilon]$
 [ $\nu$ ]оv кає $\alpha \nu \in \beta[\eta$ о катขос $\tau \omega \nu$ $\theta v \mu \iota \alpha \mu а \tau \omega \nu \tau \alpha \iota c]$


 стךрıоv каı $\epsilon \beta a \lambda[\epsilon \nu$ єוc $\tau \eta \nu \gamma \eta \nu$ каи $\epsilon \gamma \epsilon \nu$ оขто $\beta \rho \circ \nu]$


## NEW TESTAMENT



[ $\nu \alpha \in \nu$ аıрать каь $\epsilon \beta \lambda \eta \eta \eta \epsilon \iota \tau \eta \nu \gamma \eta \nu$ каь то трıтор]
$[\tau \eta \subset \gamma \eta \subset \kappa \alpha \tau \epsilon \kappa \alpha \eta] \kappa \alpha[\iota \tau о] \tau \rho \iota^{[\tau] \rho[\nu]} \tau \omega[\nu \delta \epsilon \nu \delta \rho \omega \nu \kappa \alpha \tau \epsilon]$
$[\kappa а \eta$ каı тас $\chi]$ ортос $[\chi \lambda] \omega \rho о с$ [катєкаך кає о $\delta \epsilon \nu \tau \epsilon]$

(lines 16-23 lost)
]. . [
$\tau \rho i] \tau o \nu \tau \omega[\nu v \delta \alpha \tau \omega \nu \epsilon \iota c]$
$[a \psi \iota \nu \theta o \nu \kappa \alpha \iota \pi о \lambda \lambda o \iota \tau \omega] p \overline{\alpha \nu \omega \nu}[a \pi \epsilon \theta \alpha \nu o \nu \epsilon \kappa]$
[ $\tau \omega \nu v \delta \alpha \tau \omega \nu$ о $\tau \iota \epsilon \pi \iota] \kappa \rho \alpha \nu \theta \eta[$ [саv ка८ о $\tau \epsilon \tau \alpha \rho \tau о с ~ \alpha \gamma]$
$[\gamma \epsilon \lambda о с є с а \lambda \pi \iota \subset \epsilon \nu \kappa \alpha \iota \epsilon] \pi \ddot{\lambda} \eta \gamma \eta$ то $\tau[\rho \iota \tau о \nu$ ]


.[.]. [ $\nu v \xi$ оиоьшс каь єьסоу каь $\eta \kappa о v с \alpha ~ є v о с ~ а] ~]$

 $\gamma \circ c \tau[\omega \nu \bar{\gamma}$ a $\gamma \gamma \epsilon \lambda \omega \nu \tau \omega \nu \mu \epsilon \lambda \lambda o \nu \tau \omega \nu$ ca $\lambda \pi \iota \zeta \epsilon \iota \nu]$
$\epsilon]$ §ov $a \subset \tau \epsilon \rho a[\epsilon \kappa]$
[ $\tau 0 v \overline{\text { ovvov } \pi \epsilon \pi \tau \omega к о т а ~} \epsilon \iota<\tau \eta \nu \gamma] \eta \nu$ каı $\epsilon \delta о \theta[\eta]$ $[a v \tau \omega \eta$ клєıc $\tau$ оv $\phi \rho \in a \tau о с ~ \tau \eta с а] \beta u c c o v$ ка! $\eta[\nu ⿺ \iota]$

40





45 [ $\gamma \eta с к \alpha \iota є \rho \rho \epsilon \theta \eta$ avтоıc] iva $\mu[\eta$ а $\delta \iota к \eta c o v c \iota \nu]$
[ $\tau \circ \nu$ रортоv $\tau \eta \subset \gamma \eta \subset$ ov $\delta \epsilon] \pi \alpha \nu[\chi \lambda \omega \rho o v$ ov $\delta \epsilon \pi \alpha \nu]$
[ $\delta \epsilon \nu \delta \rho \circ \nu$ єı $\mu \eta$ тove $\overline{\alpha \nu O v c}$ oıтıvєc ovк єХоvcı]
[ $\tau \eta \nu \subset \phi \rho a \gamma \iota \delta \alpha]$ тov $\theta[\bar{v} \in \pi \iota \tau \omega \nu \mu \epsilon \tau \omega \pi \omega \nu \kappa \alpha \iota]$
[ $\epsilon \delta o \theta \eta$ avtoıc] iv $[\alpha \mu \eta]$ aлок $[\tau \epsilon \iota \nu \omega c \iota v$ avtovc $\alpha \lambda \lambda]$
$50 \quad[\iota \nu a \beta a c a \nu \iota c] \theta \omega[c \iota v] \mu \eta \nu[a c$

## [ ]..[ ]..[ <br> (lines $5^{2-5} 6$ lost)

## ].

$\pi \rho o c \omega \pi] \alpha \overline{a v \omega \bar{y}}[\kappa \alpha \iota \epsilon \iota \chi \circ v]$


[кас $\omega с$ ө $\omega \rho \alpha к а с ~ с \iota \delta \eta \rho о]$ ск каь $\eta \phi[\omega \nu \eta \tau \omega \nu]$
[ $\pi \tau \epsilon \rho v \gamma \omega \nu$ av $\omega \nu \omega c] \phi \omega \nu \eta$ a $\rho[\mu a \tau \omega \nu \iota \pi \pi \omega \nu]$
[ $\pi \circ \lambda \lambda \omega \nu \nu \rho \epsilon \chi о \nu \tau \omega \nu \in \iota<\pi о \lambda \epsilon \mu \circ \nu \kappa \alpha \iota є \chi о v]$
[сьу оирас одоьас скортьоьс кає кєขтр] а ка!
65 [ $\epsilon \nu$ таıс ovpaıc $\alpha v \tau \omega \nu \eta$ є $\xi$ ovcıa $\alpha v]$ т $\omega v a \delta \iota$
[кךсає тоис $\overline{\text { avovc } \mu \eta \nu a c ~}] \epsilon \epsilon \pi$ avт $\bar{\omega}$
[ $\beta a c i \lambda \epsilon \alpha$ тov ay $\gamma \epsilon \lambda o v \tau \eta c$ aßuccov ovo] $\mu \alpha$ av
[
$] \tau \omega$
Pages 15-16: Frr. (j) to (I)
$\downarrow$

70 $\epsilon \chi \epsilon \iota \circ$ A $[\pi o \lambda \lambda \nu \omega \nu \eta$ ovaı $\eta \mu \iota a$ a $\pi \eta \lambda \theta \epsilon \nu \iota \delta o v]$
$\epsilon \rho \chi \in \tau[a \iota \in \tau \iota \bar{\beta}$ ovaı $\mu \in \tau a$ таvта каı о єктос ауүєोос]
$\epsilon[c] a \lambda \pi \iota c \in \nu$ [каь $\eta \kappa о v с \alpha$ ф $\omega \nu \eta \nu \mu \iota \alpha \nu \kappa \kappa \omega \nu \bar{\delta}]$

$\nu \omega \pi \iota \circ \nu[$ [ov $\overline{\theta v} \lambda \epsilon \gamma \circ \nu \tau \alpha \tau \omega \in \kappa \tau \omega$ а $\gamma \gamma \epsilon \lambda \omega$ o]

$\delta \epsilon \delta \epsilon \mu \epsilon \nu$ ouc $[\epsilon \pi \iota \tau \omega \pi \pi \tau \alpha \mu \omega \tau \omega \mu \epsilon \gamma \alpha \lambda \omega E v]$
$\phi \rho a \tau \eta$ каı $\epsilon \lambda v[\theta \eta<\alpha \nu$ o८ $\bar{\delta} a \gamma \gamma \epsilon \lambda$ o८ o८ $\eta \tau о \iota \mu a]$
$[c] \mu[\epsilon]$ you $\epsilon \iota<\tau \eta \nu[\omega \rho \alpha \nu \kappa \alpha \iota \eta \mu \epsilon \rho a \nu$ каь $\mu \eta \nu \alpha]$

8o $\quad[\tau \omega \nu \overline{a \nu \omega \nu} \kappa \alpha \iota]$ o $\alpha[\rho \iota \theta \mu о с \tau \omega \nu<\tau \rho \alpha \tau \epsilon \nu \mu \alpha \tau \omega \nu]$
(lines $8 \mathrm{r}-89$ lost)
90 ]. [




$95 \kappa \alpha[\pi] \epsilon \kappa \tau \alpha[\nu \theta \eta<\alpha \nu \epsilon \nu]$ таuc $\pi[\lambda \eta \gamma \alpha ⿺ 𠃊 \tau \alpha v \tau \alpha u c$ ov $\delta \epsilon]$ $\mu[\epsilon \tau \epsilon \nu \circ \eta \subset \alpha \nu \epsilon \kappa \tau \omega \nu \mid \epsilon \rho \gamma \omega[\nu \tau \omega \nu \chi \epsilon \iota \rho \omega \nu$ av $\tau \omega \nu]$

 $\tau \alpha \lambda_{\imath} \theta_{\imath \nu}$［каı $\tau \alpha \xi \cup \lambda_{\imath v \alpha}$ a ovтє $\beta \lambda_{\epsilon \pi \epsilon \epsilon \iota \nu} \delta v$ ］
100 vavтaı ou［ $\tau \epsilon$ акоvєıv оvтє $\pi \epsilon р \iota \pi \alpha \tau \epsilon \iota \nu$ каı ov］ $\mu \epsilon \tau \epsilon \nu о \eta с а \nu[\epsilon \kappa \tau \omega \nu$ фор $\omega \nu \alpha \nu \tau \omega \nu$ ov $\tau \epsilon \epsilon \kappa$ ］ $\tau \omega \nu \phi \alpha \rho \mu \alpha[\kappa \omega \nu$ аvт $\omega \nu$ оvтє $\epsilon \kappa \tau \eta \subset \pi о \rho \nu \epsilon \iota]$
ac av $a \tau \omega \nu$ ov $[\tau \epsilon \epsilon \kappa \tau \omega \nu \kappa \lambda \epsilon \mu \mu a \tau \omega \nu$ av $\tau \omega \nu]$

［ $\tau \alpha \in \kappa$ тоv $\overline{\text { ovvov } \pi \epsilon \rho \iota \beta \epsilon \beta \lambda \eta \mu \epsilon \nu о \nu ~ \nu \epsilon \phi \epsilon \lambda] ~ \eta \nu ~ к \alpha \iota ~} \eta$ ［ $\llcorner\iota \iota є \pi \iota \tau \eta \subset к є \phi а \lambda \eta \subset$ аvтоv каь то $\pi \rho о с \omega]$ ］оv av
 ［каı $\epsilon \chi \omega \nu \in \nu \tau \eta \chi є \iota \rho \iota a v \tau o v \beta \iota \beta \lambda \alpha \rho \iota \delta \iota o v] \quad \eta \nu \epsilon \omega \gamma \mu \epsilon$
［vov каı $\in \nmid \eta \kappa \epsilon \nu$ тоv то
，
［каı єкра $\xi \epsilon \nu \phi \omega \nu \eta \mu \epsilon \gamma a \lambda \eta \omega]$ стєр $\lambda \epsilon \omega \nu \mu \circ \iota$
$[\kappa \alpha \tau \alpha \iota \kappa \alpha \iota$ отє $\epsilon к \rho \alpha \xi \epsilon v \epsilon \lambda \alpha \lambda \eta]$ cav al $\bar{\zeta}$ ß $\rho o v \tau \alpha[\iota]$

［ $\epsilon \kappa$ тov $\overline{\text { ovvov } \lambda \epsilon \gamma o v c a \nu] ~ ¢ \phi \rho a \gamma \iota c o \nu ~[~} \alpha$ є $\lambda \alpha \lambda \eta$ ］
II5［cav al $\bar{\zeta}$ Bpoviaı каı $\mu \eta$ avта $\gamma \rho] \alpha \psi[\eta c$
（lines I I6－I24 lost）

> ]. [




 ［ $\epsilon \nu \tau \omega$ cтонать cov $\epsilon]$ cтal $\gamma[\lambda \nu \kappa \nu \omega c \mu \in \lambda] \iota \quad \kappa \alpha \iota \in \lambda \alpha$


${ }_{135}[\mu \epsilon \lambda \iota \gamma \lambda \nu \kappa v$ каь отє єфаүоv аvто $\epsilon \gamma \epsilon] \mu[\iota]$ с $\theta \eta \eta$ коь $\lambda_{\iota}$

$[\epsilon \pi \iota \lambda$ aouc каı $\epsilon \theta \nu \epsilon \subset \iota \nu$ каı $\gamma \lambda \omega c]$ саıс каı $\beta$ ась $\lambda[\epsilon v]$
［сьш $\pi о \lambda \lambda о \iota с к \alpha \iota \epsilon \delta о \theta \eta \mu о \iota \kappa \alpha \lambda \alpha \mu]$ ос оноьос $\rho a[\beta \delta \omega]$

Pages 17－18：Frr．（m）to（o）
（line 139 lost）
$\downarrow$
$\left.{ }_{140}\right] .[\quad \epsilon \nu \alpha v]$

 $\mu \eta \nu a c \overline{\mu \beta}[\kappa a \iota \delta \omega c \omega$ тоис $\delta v c \iota \nu \mu a \rho \tau v c \iota \nu \mu о v]$
${ }^{145} \quad[\kappa \alpha]_{!} \pi \rho \circ \phi \eta[\tau \epsilon v c o v c \iota v ~ \eta \mu \epsilon \rho a c \mathcal{A c \xi} \pi \epsilon \rho \iota \beta \in \beta \lambda \eta]$

$[\lambda \nu] \chi \nu \iota a \iota[\alpha \iota \epsilon] p \omega[\pi \iota o \nu \tau o v \overline{\kappa v} \tau \eta \subset \gamma \eta<\epsilon \subset \tau \omega \tau \epsilon \epsilon \kappa \alpha \iota]$
 ［ $\epsilon \kappa$ тov ст］оратос［avт $\omega \nu$ каı катєс $\iota_{\iota \epsilon \iota}$ тоvс $\left.\epsilon \chi \theta \rho о v c\right]$
$150 \quad[a v \tau \omega \nu]$ к $\alpha \iota \leqslant \iota \tau[\iota \subset \theta \epsilon \lambda \eta<\eta$ avtovc $\alpha \delta \iota к \eta<\alpha \iota$ ovтшく $\delta \in \iota]$ ［avтоь a］ток $[\tau] \alpha[\nu \theta \eta \nu \alpha \iota$
（lines ${ }^{\text {I }}$ 2－$^{2-1} 5^{8}$ lost）
］．［
 $[A \iota \gamma v \pi] \tau[0]$ с ото $[v$ кає о $\overline{\kappa<} \alpha v \tau \omega \nu$ єстаvр $\omega \theta \eta$ кає $\beta \lambda \epsilon]$

［каı］$\epsilon \theta \nu \omega \nu \tau \alpha{ }^{\kappa \alpha[ }[\pi \tau \omega \mu \alpha \tau \alpha$ av $\omega \nu \nu \eta \mu \rho \alpha<\bar{\gamma}]$
［каı］$\eta \mu \iota \nu^{*} к \alpha[\iota \tau \alpha \pi \tau \omega \mu \alpha \tau \alpha$ аv $\tau \omega \nu$ оvк афıоисьv］
$165 \quad[\tau \epsilon \theta] \eta \nu \alpha \iota \in \iota<\mu[\nu \eta \mu \epsilon \iota \nu$ кає оь катоькоиข $\tau \epsilon \subset]$
$[\epsilon] \pi \iota \tau \eta \subset[\gamma] \eta c \cdot \chi a\left[\iota \rho \frac{v c \iota v}{} \epsilon \pi\right.$ аvтоıc каь $\left.\epsilon \cup \phi \rho \alpha \iota v \circ \nu\right]$


$[\epsilon \pi] \iota \tau \eta \subset \gamma \eta[c] \quad \kappa \alpha[\iota \mu \in \tau \alpha \tau \alpha c \bar{\gamma} \eta \mu \in \rho \alpha \subset \kappa \alpha \iota \tau о \quad \eta \mu \iota \subset v]$
 cav $\epsilon \pi \iota \tau o[v]$ с $\pi o[\delta \alpha c$ аvт $\omega \nu \kappa \alpha \iota \phi о \beta о с \mu \epsilon \gamma \alpha c \in \pi \epsilon]$

[ $\phi \omega] \nu \eta \nu \mu \epsilon \gamma \alpha\left[\lambda \eta \nu \epsilon \kappa\right.$ тov $\overline{\text { ovvov }} \lambda_{\epsilon \gamma \text { боvcav } \alpha v \tau o u c]}$ $[\alpha \nu \alpha \beta] a \tau \epsilon \omega \delta[\epsilon \kappa \alpha \iota \alpha \nu \epsilon \beta \eta c a \nu \epsilon \iota c \tau 0 \nu \overline{\text { ovvov } \epsilon \nu \tau \eta]}$ [ ]. [

## сєıс $]$ ]о

[ $\mu є \gamma а с к а \iota ~ т о ~ \delta є к а т о \nu ~ \tau \eta с ~ \pi о \lambda \epsilon \omega с ~ є \pi \epsilon] \overline{¢ \epsilon}$
 $[\mu \alpha \tau \alpha \overline{\alpha \nu \omega \nu} \chi \iota \lambda \iota \alpha \delta \epsilon c \bar{\zeta} \kappa \alpha \iota$ оь $\lambda]$ о८тоь $\epsilon \mu$ [фоßоь єүєขоขто каь є $\delta \omega \kappa \alpha \nu$ ]. [.]. $\tau \omega$
 $[\theta \in \nu \iota \delta o v \eta$ ovaı $\eta \tau \rho \iota \tau \eta \in \rho \chi] \in \tau[\alpha \iota \tau \alpha] \chi v$ каь


5 [каı тоv $\overline{\chi \rho v}$ avтоv каı $\beta a c \iota \lambda \epsilon] v[\mathrm{c}] \epsilon \iota \epsilon[\iota c]$

* (lines 187-193 lost)
$k]$ acp $[0 c]$



 [каь $\delta \iota a \phi \theta \epsilon \iota \rho a \iota$ тovc $\delta \iota a \phi \theta \epsilon \iota \rho] 0 \nu^{\tau} a c$ т $\rceil[\nu]$ $[\gamma \eta \nu$ каı $\eta \nu o \iota \gamma \eta$ о vaoc $\tau 0 v] \overline{\theta v}$ о $\epsilon[\nu]$
$200 \quad[\tau \omega \overline{o v \nu \omega} \kappa \alpha \iota \omega \phi \theta \eta \eta \kappa \iota \beta \omega \tau 0]$ ¢ $\tau \eta[c \delta i] \alpha \theta[\eta]$

$[$ vaı $]!\kappa[a \iota c] \in \iota c \mu о с$
[ка८ $\chi a \lambda \alpha \zeta \alpha \mu \epsilon \gamma \alpha \lambda \eta \kappa \alpha \iota<\eta] \mu \epsilon![0]$ ! $\mu \epsilon$ $[\gamma \alpha \omega \phi \theta \eta \epsilon \nu \tau \omega \overline{o v \nu \omega} \gamma v \nu] \eta \pi \epsilon \rho \iota \beta \epsilon \beta \lambda \eta$
$205 \quad[\mu \epsilon \nu \eta$ тov $\eta \lambda \iota o \nu$ каו $\eta$ $\epsilon \in \lambda]$ П $\nu \eta$ ท̈тока
$[\tau \omega \tau \omega \nu \pi о \delta \omega \nu$ аvтךс ка८] $\epsilon \pi \iota \tau \eta \subset \kappa є$


Pages 19-20: Frr. (p) to (s)

 рос $\mu \epsilon \gamma[a c \in \chi \omega \nu$ кєфалас $\bar{\zeta} \kappa \alpha \iota \kappa \epsilon \rho a \tau \alpha$ 亿 $]$


[ $\tau$ ]ov $\overline{[0] \text { vvou }} \kappa[\alpha \iota \in \beta a \lambda \epsilon \nu$ avtovc $\epsilon \iota<\tau \eta \nu \gamma \eta \nu \kappa \alpha l]$

$\tau \eta[\epsilon] \mu[\epsilon] \underset{\sim}{[ } \lambda 0] \cup \underline{[c} \eta c$
$\tau \eta с к \alpha[\tau \alpha \phi \alpha \gamma \eta$ каь єтєкєข vıov арсєv ос]


$220 \quad[\pi \rho o]$ с то $[\nu \overline{\theta \nu}$ кає $\pi \rho о с$ тоv $\theta \rho o \nu o v a v \tau о v]$ ]. [
(lines 223-229 lost)
]. .[ $\quad$ o] $\quad \varphi /[\omega] \quad \kappa \alpha \iota \in \beta[\lambda \eta \theta \eta$ о $\delta \rho \alpha \kappa \omega \nu]$

 $[\lambda \eta \nu \epsilon] \beta \lambda \eta \theta \eta$ єוc $\tau \eta \nu \gamma \eta \nu \quad \kappa \quad\left[\begin{array}{lll}\alpha \iota & \text { ot } \alpha \gamma \gamma \epsilon \lambda o \iota & \alpha v]\end{array}\right.$ $[$ fov $\mu] \epsilon \tau$ avтov $\epsilon \beta \lambda \eta \theta \eta \subset \alpha \nu \kappa[\alpha \iota \eta \kappa о \cup с \alpha \phi \omega]$ $[\nu \eta \nu] \mu \epsilon \gamma \alpha \lambda \eta \nu \in \nu \tau \omega \overline{[o] v \nu \omega}$ [ $\lambda \epsilon \gamma \operatorname{lovca\nu } a \rho \tau \iota \epsilon]$
 $[c \imath \lambda] \epsilon \iota a[\tau o] v \overline{\theta v} \eta \mu \omega[\nu] \kappa \alpha \iota \eta[\epsilon \xi$ oucıa E
] $\alpha v[\tau \circ v \circ \tau \iota \epsilon \beta \lambda \eta \theta \eta \circ \kappa \alpha \tau \eta \gamma \omega \rho]$
$[\tau \omega \nu \alpha \delta \in \lambda \phi \omega \nu \eta \mu \omega] \nu$ o $[\kappa \alpha \tau \eta \gamma \circ \rho \omega \nu$ avtovc $\epsilon \nu \omega]$ [ $\pi$ iov tov $\overline{\theta v} \eta \mu \omega \nu \eta] \mu \epsilon[\rho a c$
(lines $24 \mathrm{I}-246$ lost)
$\rightarrow$

## ] кa!p[o]y[ $\epsilon \chi \epsilon i]$

$[\kappa \alpha \alpha \iota$ от $\epsilon \iota \delta \epsilon \nu$ о $\delta \rho \alpha \kappa \omega \nu$ оть $\epsilon \beta \lambda \eta \theta] \eta$ $\epsilon \iota \tau \tau \eta$ $[\gamma \eta \nu \nu \delta \delta \omega \xi \in \nu \tau \eta \nu \quad \gamma v \nu \alpha \iota \kappa \alpha \quad \eta \tau \iota c \in \tau] \epsilon \kappa \epsilon \nu \tau$
$250 \quad[a \rho с \in \nu \alpha \kappa \alpha \iota \in \delta о \theta \eta<a \nu \tau \eta \gamma \nu \nu a \iota \kappa] \iota \delta v o \pi \tau \epsilon \rho v$




 [тотанол $\quad \iota \nu \alpha$ аvт $\nu \nu \pi о \tau \alpha] \mu о \phi \rho \rho[\eta]$ [ $\tau 0 \nu \pi о \iota \eta \subset \eta \kappa \alpha \iota \in \beta \circ \eta \theta \eta \subset \in \nu \eta \gamma \eta \quad \tau] \eta \gamma \nu \nu \alpha[\iota]$
[кıкаь $\eta \nu \circ \iota \xi \epsilon \nu ~ \eta \gamma \eta$ то стона аvт $\eta c] \kappa \alpha \iota$
[катєтьєข $\tau$ ov $\pi о \tau \alpha \mu o \nu$ ov $\epsilon \beta a \lambda \epsilon \nu$ о $\delta \rho]$ ] ак $\omega[\nu]$


## $[\kappa \omega \nu$

(lines 262-266 lost)
] каı єTь тас $\kappa є \phi а \lambda[\alpha c a v \tau o v]$




[каı тov $\theta \rho o$ ] yov avtov ка८ є \%ovcıav [ $\mu \epsilon \gamma a]$
$[\lambda \eta \nu \kappa \alpha \iota \mu \iota \alpha] \nu^{\epsilon \kappa} \tau \omega \nu \kappa \in \phi a[\lambda] \omega \nu$ avтov $\omega[\mathrm{c}]$
$275 \quad[$ रov $\theta \alpha \nu a \tau o v$ avtov $\in \theta \epsilon \rho \alpha] \pi \epsilon v \theta[\eta$ кaь $\in \theta \alpha v]$ [ $\mu \alpha c \theta \eta$ od $\eta \eta \gamma \eta$ oтıc $\omega$ $\tau 0 v]$ $\theta \eta \rho![o v$

$$
\text { (lines } 277-283 \text { lost) }
$$

Pages 21-22: Frr. ( t ) to (w)
$\downarrow$
$\overline{\theta_{\nu}} \beta \lambda \alpha c \phi[\eta \mu \eta<\alpha \iota$ то оуо $\mu$ avтоv каı $\tau \eta \nu]$
285



छоvcıa $\epsilon[\pi \iota \pi \alpha, c a \nu \phi \nu \lambda \eta \nu$ каı $\lambda$ aov к $\alpha \iota \gamma \lambda \omega c]$
cav ка! [ $\epsilon \theta \nu$ ос каı $\pi \rho о с к \nu \nu \eta с о и с \iota \nu ~ a v \tau о \nu ~ \pi \alpha \nu \tau \epsilon c] ~] ~$
, $0 .[\tau \in \subset \in \pi \iota \iota \eta<\gamma \eta<$ ov ov $\gamma \in \gamma \rho \alpha \pi \tau \alpha \iota \tau 0]$



[ $\pi \iota c \tau \iota c ~ \tau \omega \nu ~ a] \gamma \iota \omega \nu$ кa! [ $\epsilon \iota \delta o \nu$ a $\lambda \lambda o$ O $\eta \rho \iota \circ \nu a \nu \alpha]$
[Batvov $\epsilon к \tau \eta]<\gamma \eta<$ каı $\epsilon \iota[\chi \in \nu$ кєрага $\bar{\beta}$ ороьа]
$[\alpha \rho \nu \iota \omega \kappa \alpha \iota \epsilon] \lambda[a] \lambda \epsilon \iota \omega c \delta[\rho \alpha \kappa \omega \nu \kappa \alpha \iota \tau \eta \nu \epsilon \xi \circ v]$
 (lines 300-303 lost)
$[\pi v \rho \pi о \iota] \eta \kappa \alpha \tau \alpha \beta \alpha[\iota \nu \epsilon \iota \nu \epsilon \iota \subset \tau \eta \nu \gamma \eta \nu \in \nu \omega \pi \iota \circ \nu]$
$305 \quad\left[\tau \omega \nu \bar{a} \overline{\bar{\alpha}}{ }^{2} \omega \nu \quad \kappa \alpha \iota \pi \lambda[\alpha \nu \alpha\right.$ тоvс катоькоиутас $\epsilon \pi \iota$


 $\pi \lambda \eta \gamma \eta \nu \tau \eta[с \mu \alpha \chi a \iota \rho \eta<\kappa \alpha \iota \epsilon \zeta \eta<\in \nu \kappa \alpha \iota \epsilon]$






## (lines 315-319 lost)

$\nu 0] \varphi \nu \psi \eta \phi \subset \subset[a]$
 [ $\epsilon c \tau \iota v$ кац о $\alpha \rho \iota \theta \mu$ ос avтоv

$$
\text { ]. } \bar{\eta} \overline{\chi^{15}}
$$


[Cıんv каı $\mu \epsilon \tau$ avтоv $\overline{\rho \mu \delta} \chi \iota \lambda \iota a \delta \epsilon]$ ¢ $\epsilon \chi$ оиса [l]
[то оуона аvтои ка८ то оvона тоv $\overline{\pi \rho c} a]$ vтov $\gamma \epsilon$
$[\gamma \rho \alpha \mu \mu \epsilon \nu o v \in \pi \iota \tau \omega \nu \mu \epsilon \tau \omega \pi \omega]$ ] $\alpha v \tau \omega \nu \kappa \alpha \iota$
[ $\eta \kappa о v c \alpha ~ \phi \omega \nu \eta \nu ~ \epsilon \kappa ~ \tau o v ~ \overline{o v \nu o v ~} \omega c] \phi \omega \nu \eta \nu \quad \ddot{v}$
[ $\delta a \tau \omega \nu \pi о \lambda \lambda \omega \nu$ ка८ $\omega \subset \phi \omega \nu \eta \nu$ ß $\rho о \nu \tau \eta \subset ~ \mu \epsilon \gamma a]$

## $[\alpha \mu \omega \mu o \iota \in \iota c \iota v \kappa \alpha$ <br> ] $\mathrm{\lambda ov}$ i $\delta o v$ ay' $\gamma[\epsilon \lambda o v]$


[ov $\tau 0 v$ Ө povov каı] $\epsilon \nu \omega \pi \iota \circ \nu \tau \omega[\nu \tau \epsilon c c a \rho \omega \nu$
$[\zeta \omega \omega \nu \kappa \alpha \iota \tau \omega \nu \pi \rho \epsilon] \_\beta v \tau \epsilon \rho \omega \nu[\kappa \alpha \iota$ ov $\tau \epsilon \iota c \in \delta v]$
$[\nu a \tau o ~ \mu a \theta \epsilon \iota \nu \tau \eta \nu] \omega \delta \eta \nu \epsilon!\mu[\eta$ aı $\rho \bar{\mu} \bar{\delta} \chi \iota \lambda \iota a \mid$

(lines 337-340 lost)
[лєтонєvov $\epsilon \nu \mu \epsilon \subset о v \rho \alpha \nu \eta \mu] a \tau \iota \in \chi о \nu \tau a$ [ $\epsilon v a \gamma]$


[кац $\gamma \lambda \omega c c a \nu \kappa \alpha \iota \lambda \alpha o \nu \lambda \epsilon \gamma \omega \nu] \epsilon \nu \phi \omega \nu \eta \mu[\epsilon]$
 [oть $\eta \lambda \theta \epsilon \nu \eta \omega \rho \alpha$ т $\eta$ к крıсєшс $\alpha v \tau]$ ]ov [каl] [ $\pi \rho о с к v \nu \eta с а \tau \epsilon \tau \omega \pi о \iota \eta с а \nu \tau \iota \tau \circ] \nu \overline{o v p[o v]}$
[каı $\tau \eta \nu \gamma \eta \nu$ каı $\theta a \lambda a c c a \nu$ каı $\pi \eta]$ үас $\dot{v}[\delta a \tau \omega \nu]$ .
(lines $35^{\text {I }}-355$ lost)

Pages 23-24: Frr. (x) to (z)
$\downarrow$

## .[.]. [ <br> [.]. [

. . . .

¢єтa! $\epsilon \nu[\pi] \varphi \rho[\iota$ каı $\theta \epsilon \epsilon \omega$ єข $\omega \pi \iota o \nu \alpha \gamma \gamma \epsilon \lambda \omega \nu]$
$360 \quad \alpha[\gamma]!\omega \varphi[\kappa \alpha]_{!} \in \nu \omega[\pi \iota \circ \nu \quad \beta \alpha]$
$\left[{ }^{c} \alpha \nu \iota c\right] \mu o v[a v] \tau \omega \nu \in[\iota c$ aı$\omega \nu \alpha c \alpha \omega \omega \nu \omega \nu]$
[avaßalveı к]aı ovк $\in[$ Xovcıv avanavcıv]
[ $\quad \eta \mu \epsilon \alpha c]$ ка! [
(lines 364-373 lost)
]. [.]. [ $\quad \epsilon \pi \iota]$
 $[\epsilon \nu \tau \eta \quad \chi \epsilon \iota \rho \iota a v \tau o v \delta \rho] \epsilon \pi a \nu \circ \nu[о \xi v \kappa \alpha \iota a \lambda]$ $[\lambda о c ~ a \gamma \gamma \epsilon \lambda о c ~ \epsilon \xi \eta \eta \theta \mid \epsilon \nu$ єк $\operatorname{\tau ov}$ [ $\nu \alpha o v]$ $[\kappa \rho \alpha \zeta \omega \nu \epsilon \nu \phi \omega \nu \eta] \mu \epsilon \gamma a \lambda \eta[\tau \omega \kappa \alpha \theta \eta \mu \epsilon \nu \omega \nu]$ [ $\epsilon \pi \iota \tau \eta \subset \nu \epsilon \phi \in \lambda \eta c] \pi \epsilon \mu \psi[$ [ov $\tau 0 \delta \rho \in \pi \alpha \nu 0 \nu$ cov]
 $[\epsilon \xi \eta \rho \alpha \nu \theta \eta$ о $\theta \epsilon \rho \iota \subset \mu \circ \subset] . \eta<[$
(lines $382-390$ lost)
$\rightarrow$
$39 \mathrm{I} \quad[\quad \eta \kappa \mu a с \alpha \nu$ aı стафvia] $\stackrel{\alpha}{ }[v] \tau \eta[c]$ [каи $\epsilon \beta a \lambda \epsilon \nu$ o $a \gamma \gamma \epsilon \lambda$ ос $\tau о \delta \rho \epsilon \pi \alpha \nu o v$ avtov] $\epsilon \iota c \tau \eta \nu$
 [ $\beta a \lambda \epsilon \nu$ єıc $\tau \eta \nu \lambda \eta \nu \circ \nu$ тov $\theta v \mu \circ v$ то]v $\bar{\theta}[v]$ $\tau$ ov $\mu \epsilon[\gamma] \bar{a}$

$[\epsilon \xi \eta \lambda \theta \epsilon \nu$ al $\mu \alpha \in \kappa \tau \eta c]$ d $\eta \nu o v$ ax $[\rho \ell]$ $\tau \omega \nu \chi[a]$
$[\lambda \iota \nu \omega \nu, \tau \omega \nu \iota \pi \pi \omega \nu \alpha \pi \sigma \quad<\tau \alpha \delta]!\omega \nu B_{\chi}[\kappa \alpha \iota є \iota \delta o \nu]$
$[a \lambda \lambda о$ с $\eta \mu \epsilon \iota \nu \in \nu \tau \omega \overline{o v \nu \omega} \mu] \epsilon \gamma \alpha$ каь $\theta[\alpha \cup \mu a c \tau о \nu]$

## ]. [.].[

(lines 400-4 I I lost)


$4^{15} \quad[\alpha \gamma \gamma \epsilon \lambda$ o८ oь єХоעтєc $\tau \alpha c] \bar{\zeta} \pi \lambda \eta \gamma[\alpha]$ ¢ [ $\left.\epsilon \kappa \tau \sigma v\right]$ [vaov $\epsilon \nu \delta \in \delta v \mu \epsilon \nu o \iota ~ \lambda \iota v o \nu] ~ к \alpha \theta a \rho o[\nu \lambda a \mu \pi \rho o \nu]$ $[\kappa \alpha \iota \pi \epsilon \rho \iota \epsilon \zeta \omega \subset \mu \epsilon \nu \circ \iota \pi \epsilon \rho]!\tau \alpha<\tau \eta \theta[\eta \zeta \omega \nu \alpha c]$ [Хрисас каь $\epsilon \nu \epsilon \kappa \tau \omega \nu \bar{\delta}] \zeta \omega \omega \nu[\epsilon \delta \omega \kappa \epsilon \nu \tau о \iota]$
]. . .

Pages 3-4: Fr. (a)
$\rightarrow$ The expected text would require 4 X letters to have been lost between lines 3 and 4 and 46 between line 4 and 5 , but noticeably fewer between lines I and 2 and between 2 and 3 , even if we allow for the longer variants. Therefore the fragment has been left unrestored.
$\downarrow$ The lateral position of the fragment is merely hypothetical．
2．Spacing suggests the papyrus included ot which is omitted by C 2053 al．
$\tau \omega$［Ba入ak：there are some faint traces above $\tau \omega$ ．It is not clear if these are in the first hand，and it is difficult to tell whether they stand for some letters（ $\epsilon v$ would be possible）or just for a line or mark to indicate a correction or delction．$\tau \omega$ Baגaк is the reading of A C and some minuscules；$\epsilon \nu \tau \omega$ Ba入aк 1， $18 ; 046$ reads

 following trace is unclear and appcars to have a tiny at written over it（in the same hand）．If the papyrus did
have Nıкodaitcuv at this point，spacing suggests it omitted $\tau \omega v$ before it（so A C 046 ． 161 II ． $1854 . \mathrm{m}^{\kappa}$ ）．$\tau \omega v$ is have Nuкoגaituv at this point，sp

Pages 5－6：Fr．（b）
This fragment belongs to a new leaf．No margins are preserved and the restoration of its lateral position is hypothetical．

I ］．［：horizontal stroke at the level of the bottom line，which would suit delta or xi．The obvious assumption would be to supply $\epsilon\}[$［ovecav，but this perhaps gives too long a line．
 the addition of autov or aurove is not attested elsewhere，we should probably autov or avtov［c；but since deletion（for examples of this sort of delction cf．Turner，$G M A W^{2} \mathrm{p}$ ．16）．The text of the bar to indicate a
 Revelation is paraphre mint have prompted the scribe＇s addition of avrove．
5 ［ $\overline{\pi \nu a}$ ：the left－hand part of the supralinear bar is still visible．
$\downarrow$
I［．］$\overline{\text { ove }} \boldsymbol{\tau}$［ovc：tau is almost certain．The traces above ouc are faint but a horizontal seems likely．This I［．］ovc $\tau[\operatorname{love}$ ；tau is almost certain．The traces above ove are faint but
2 Spacing suggests the papyrus included ioov with 2014 pc Lvt（a）；Tyc Apr．$\delta \delta o v$ is omitted by \＆A C
 be an isolated slip，under the influence of the following genitives．The spacing would allow the following reconstruction：

 looks too long．

4－5 ］ка⿰［ is certain．But if we continue to restore the transmitted text，we run into difficulties：


Pages 9－10：Frr．（c）+ （d）
Fragments from a new leaf；a complete leaf must have been lost between these fragments and the one prcceding．There is a small gap between（c）and（d），but for the purposes of transcription I treat them as one． The lateral position of the supplements is hypothetical．The average number of letters to the line is uncertain on $\downarrow$ ；as restored，it is 43 on $\rightarrow$ ．
I teccapa（or $\bar{\delta}$ ）is the reading of $\mathbb{N} A$ and most MSS；it is omitted by $\mathrm{P} \mathfrak{M}$ ．
$2 \epsilon \pi \epsilon!c a v:$ so $\mathcal{N}$ A and many minuscules（for the intrusion of the first aorist endings into the inflexion of the second aorist cf．B．G．Mandilaras，The Verb $\$ 317$（17）and Blass－Debrumner－Rehkopf，Grammatik des

 are no altcsted variants，apart from the reading of $\tau \eta \nu \tau \rho \tau \tau \eta \nu$ cфpayvio by for the papyrus cven if we supposs
3 The variants attested are：



epxov kau ıoov introc：so 1854
$\delta_{o v}$ for $\epsilon i \delta o v$（which is also read by C）is found orth too short．Either the third or the first is possible．Since


Pages I3－I4：Frr．（e）to（i）
These five fragments belong to the same leaf of the codex．Again，a complete leaf has boen lost between them and the preceding fragments．There arc remains of 26 lincs of a pagc which probably had 35 lines in the page．The lateral position of（e）and（i）is certain，as they preserve the start and ends of the lincs；the other fragments are only tentatively placed．The average number of letters to the line on $\downarrow$ was 37 and on $\rightarrow 35$ ．There is a substantial loss in the middle of the pagc between（e）and（f）$+(\mathrm{g})$ ．
$\downarrow$
I $\delta \omega[\tau]!, ~ \pi a \mid$ ：before tau therc is a trace of a vertical，slightly curved to the left．It suggests iota rathe than eta．The dimensions of the lacuna also favour $\delta \omega c \in e:$ so $\mathbb{N} \mathrm{A} \mathrm{C} ; \delta \omega c \eta \mathrm{P} 046 \mathfrak{M} ; \delta \omega 1$ 1006．184．1． 2053 pc
 $7 \in \beta a \lambda[e v$ so


 no relevant variants．
 io $\epsilon\left[\right.$［urove：so $\mathbb{N}^{1} \mathrm{P} 046 \mathfrak{M}$ ；autouc $\mathbb{N}^{*}$ ．
col It is likely that the papyrus rcad ayysloc
short．This is the reading supported by $\mathfrak{M}^{\wedge}$ ．AP o4 6 and many other MSS omit it
 under the horizontal of the former gamma（these corrections are in ink now，and rho and iota were added above the line．Ordinal numbers are occasionally written as figures in $\mathfrak{p}{ }^{47}$ ．
${ }^{26-27}$ The supplement between these two lines seems slightly too short．The readings $\epsilon \pi v \tau \omega v \nu \delta a \tau \omega v$ so A and 1597）or amo $\tau \omega \nu \nu \delta a \tau \omega \nu$（so 1854 and a few minuscules）instead of $\epsilon \kappa \tau \omega v v \delta a \tau \omega \nu$ would not be enough to account for the discrepancy．No other variants are attested．
 The supplement is clearly too long，even if we assumc that here again the scribe wrote $\gamma^{\prime}$ for $\tau \rho \tau \tau o \nu$ ．Possibly

29 ［ $] ~ y[$［ $\alpha$ ：the nu is very doubtful．

of $\eta \mu \epsilon \rho a$ in the line probably excludes $\tau 0$ т $\rho \iota \tau$ ov avт $\eta \subset \mu \eta$ ф $\alpha \nu \eta \eta \eta \mu \epsilon \rho \alpha$ which is the reading of 046 ． $235 \mathrm{I} \mathfrak{M}$ ．
kat $\eta$ before vog， al $\eta$ before $v v \xi$ ．
$31-32$ a $\epsilon$ ITou：so
33
It imposible to tell whether the papyrus omitted the third ovau with 2329 al．

It is very unlikely that a line has been lost between the foot of the preceding page and the top of this, although the distribution of the letters between lines 35 and 36 is uncertain. There would perhaps be room

${ }_{3} 6_{\text {ell }} \delta o v:$ A 046 and some minuscules have $\kappa \delta o v ; \boldsymbol{N} \mathbf{P}$ and most of the MSS read $\epsilon \delta \delta o v$. The papyrus may well have read ioov, ef. page 22 , line 342 .
accefpa: so most of the authorities; actepac: $\mathbf{N}^{*}$ ( $\boldsymbol{N}^{*}$ : accepa).
 by $\mathfrak{N}$ O46. $2053 \mathfrak{M M}^{\mathrm{K}}$

39 кат [ [voc]: omitted by 0207 .
 кauc a A, no othcr variants are attested.

 (rather than avzac) in line 45 also.

48 rov $\theta\left[\bar{\chi}\right.$ : so $\mathbb{K}$ A $\mathrm{P}_{0} \mathbf{0}^{6} 6$ and most of the MSS; omitted by $\mathfrak{N A}^{\mathrm{A}}$. The suprascript bar over $\theta$ is no longer visible.
$4{ }^{48-49}$ It is uncertain whether the papyrus read avt $\omega v$ after $\epsilon \pi \iota \tau \omega \nu \mu \epsilon \tau \omega \pi \omega \nu$ with $0462053235 \mathrm{I} \mathrm{m}^{\mathrm{K}}$;


${ }_{61}$ The omission of are too exiguous to attempt any reconstruction.


 here is almost certainly another epsilon, which does not have a dash over it and thercfore is not $\bar{\epsilon}$ for $\pi \epsilon \nu \tau \epsilon$, Tevre in full would only be possible if we assume the omission of exovciv. This is unattested and would in any



 $\pi$ avicw 046 and many minusculcs, sy.
$67-68$ Below $\mu a \alpha \nu, \tau \omega$ is clearly visible. It seems certain that the fragment belongs to the lowest right part of the tixt.
 ssume that $\tau \omega$ is pyєєov тŋc aßuccov ovoцa avт $\omega$, would exactly fill one line, not two. Should we therefore和 which the scribe made the initial tau (with a prolongation of the boitom part of the vertical to the lefty sce for example the tau of the in in line tau (with a prolongation of the bottom part of the vertical to the left, scribe copied his text in an already bound codex (with no possibility of extending the line further to the scribe copied his text in an already bound codex (with no posshe page as in the original from which he was
right). Possibly he wanted to keep the same number of lines to the copying. This, however, would be rather odd, and in principlc it ought not to have been very difficult for a scribe to add only two letters between the margin and the binding. The alternative is to suppose that the scribe copied line 67 again by mistake, perhaps misled by $\epsilon \pi$ auT $\bar{\omega}$ in the previous linc. He might have started again with $\beta$ acinea and on this occasion finished the linc with avrw


 $\omega$ ovoцa $E \beta \rho a(\epsilon) \ll \tau \iota 1 \mathfrak{B}^{47}$ 2344. The papyrus did not omit avTc; whether it omittcd $\omega$ is uncertain.

Pages 15-16: Frr. (j) to (1)
Three fragments belonging to the same leaf. After ( j ) several lines are lost. Between (k) and (1) there is a gap of almost 2 cm . These fragments provide us with the most useful information about the format of the $\$ .5 \mathrm{~cm}$ on the top and 0.5 cm on the lower margin of $\downarrow$. The page probably had $34-35$ lines on each side. The average number of letters to the line is 34 on $\downarrow$ and $37-38$ on $\rightarrow$.
,
70 exec $0 ~ A[\pi 0 \lambda \lambda \nu \omega v:$ the letter after omicron is damaged to the right, but alpha is almost certain. It is
 only by a few minuscules and versions: Hoskier II 247 notes his pairs 81-204 [2038, 2595 Gregory-Aland] and $228-9$ [ $1746,1740 \mathrm{GA}$ ], and 250 [1248(!) GA] (the last three from his Complutensian family); sah boh (Hc who destroyeth") arm 4
 long, but the omission of $\mu \varepsilon \tau \alpha$ тavra (so $2053^{\text {tret, }}$; Prim) would make it too short. The papyrus may have had onc it the other attested omissions, either кal (so ${ }^{\circ}$

flll, but in any case it is usual in this papyrus for cardinal numbers to be written as figures. It is therefore impossible to say whether the papyrus had $\mu$ uqv $\epsilon \kappa \tau \omega \nu \tau \epsilon \epsilon c a p \omega \nu \kappa \epsilon \in a \tau \omega \nu$ with $\mathrm{P} 046 \mathfrak{M}$ or whether it omitted eccapouv with $\mathfrak{P}^{47} \boldsymbol{\aleph}^{1} \mathrm{~A} 0207.2053 .2344$ (the phrase is omitted in $\boldsymbol{\aleph}^{*}$ ).
74 The number of letters to the linc suggests that in this already short line $\epsilon \kappa \tau \omega$ was not omitted (as in 0207) nor written as a figure.

77 є $\lambda \nu[\theta \eta$ cav: spacing suggests that $\epsilon \lambda \nu \mid \pi \eta \theta \eta$ خcav (so A ) is less likely.


 sithcr reading.

 is no doubt the papyrus had croparoc and it therefore seems rcasonable to supply $\epsilon \kappa$ тov before this, which exactly suits the space available.


 acरov [cau (1. єरov [cal): so most of the MSS. єरoucaic $\mathcal{~ ( * ) ~ P ~} 20$
of ink above $a$, which might be read as $\epsilon$.


97-98 kau ra] $\mid$ eis $\delta\left[\lambda a\right.$ : omitted by $\mathfrak{P}^{347}$ Compared to the previous line ( 34 letters) and the next one ( 33 etters), line 98 is perhaps rather long ( 37 letters). The omission of $\kappa \alpha \iota \tau a \not \chi^{\alpha \lambda \kappa \alpha}$ (so $\mathfrak{m}^{\mathrm{K}}$ ), however, would make the line too short.


ther could have been the reading of the papyrus.
103 ov[ $\tau \epsilon \epsilon \kappa \tau \omega \nu \kappa \lambda \epsilon \mu \mu a \tau \omega \nu$ aut $\omega v$ : omitted by
$\rightarrow$ 104-105 The average number of letters to the line suggests that the papyrus did not omit $a \lambda \lambda$ ov with P 2053 and $9 M^{k}$

107 crv] $\lambda o \frac{\pi}{\pi v p[o c]: ~ t h e ~ p a p y r u s ~ i s ~ d a m a g e d ~ a n d ~ o n l y ~ t h e ~ l o w e r ~ p a r t ~ o f ~ t h e ~ l i n e ~ r e m a i n s ~ v i s i b l e . ~ T h e ~}$ supplement is rather long
Io8 The supplement is again on the long sidc in con
the papyrus may have read $\beta \beta \beta \lambda$ tov with $\$^{42}$ vid and 046 .

109 $\tau 0] y$ y $\delta \in \xi_{\text {tov: }}$ omitted by C .
${ }_{11} 1$ The supplement is shorter than would be expected. The papyrus may have added $\omega c$ bcfore $\phi \omega \nu \eta ;$ , is written in** but deleted by $\boldsymbol{N}^{*}$


 2015 al . (homoiotcleuton).

113 There is insufficient room for the papyrus to have followed $\Re^{47}$ in adding avza after $\eta \mu \epsilon \lambda \lambda o v$. $113-114$ It is difficult to imagine what happened between $\phi \omega \nu \eta \nu$ and $¢ \phi \rho a y / c o p$. In the papyrus there is space for about 28 letters, but the attested text is $\epsilon \kappa$ rov ovpavou $\lambda \epsilon \gamma$ oucav ( $\phi$ wipc and $\lambda$ eyoveq $\left(B^{47}\right.$ ), which would necd only 18 letters as ovpavov would have been written obvou. Since after the nu there are traces of a horizontal on the upper part of the line and in this papyrus this could indicate a deletion (sec above page 5 , line 3), we must probably assume that the scribe made a mistake
${ }^{114}-115$ a $\in \lambda a \lambda \eta$ cav: or oca $\epsilon \lambda a \lambda \eta$ cav with $\mathfrak{B}^{1}$




 $\left.{ }^{\epsilon \nu} \tau \eta \eta\right\rceil \in \epsilon p:$ : omitted by C .
 too short.

 аขто каи катафаүє.
$131 \tau \eta \nu$ кouk] $\kappa \alpha \nu:$ this is the reading of most of the MSS, but A 235 read kap $\delta \Delta a \nu$.


T3
Pages I 7 - $\mathrm{I} 8:$ Fr. $(\mathrm{m})$ to (o)
Three fragments bclonging to the same leaf. The average number of letters to the line is $36-37$ on $\downarrow$. On $\rightarrow$ the width of the area of written text is strikingly narrower. The average number of letters to the line is here only $30-3$ I. Again this may suggest that the scribe copied the text in a codex which had already been bound. Assuming a normal text, this would suggest that some 7 lines have been lost on each side between frr. $(\mathrm{m})+(\mathrm{n})$ and fr. (o); in which case the page probably had 36 lines on $\downarrow$ and 34 on $\rightarrow$. Top and bottom in lines $176-182$. Betwecn frr. ( m ) and ( n ) there is a short gap.
$\downarrow$
$14^{1}$ 〒e кa[u: the traces of the first 3 letters are very damaged, but the lower part of an omega seems $141 \quad{ }^{14 \omega}$
almost certain.

I4 ${ }^{1-143}$ The text we would expect at this point, judging by the length of lines preserved elscwhere on
is pagc, is something like this: this page, is something like this:


Thus avr垪 occurring at this point does not fit the expected reconstruction (the reading is certain). The attestcd variants are the omission of $\tau \eta \nu a u \lambda \eta \nu\left(\mathfrak{P}^{47}\right)$, ecce $\theta \in \nu$ for the first $\epsilon \xi \omega \theta \epsilon \nu(\mathbb{N} a A), \epsilon c \omega\left(\mathbb{N}^{*}\right), \varepsilon \xi \omega\left(\mathfrak{P}^{47} 046\right.$ $\left.\mathfrak{m}^{\mathrm{K}}\right)$ or $\epsilon \epsilon \omega \theta \epsilon(\mathrm{P})$ for the second, and the addition of $\kappa a \iota$ after $\epsilon \delta 0 \theta \eta\left(\mathfrak{P}^{47} \boldsymbol{\aleph}^{*}\right)$. None of these is enough to explain what the papyrus might have read.


between the two fragments, the reading on the back suggests that there is enough 23 x . Although at falls in the gap


I60 $\overline{\pi v i k e c: ~ f o r ~ t h i s ~ a b b r e v i a t i o n ~ s e e ~ A . ~ H . ~ R . ~ E . ~ P a a p, ~ N o m i n a ~ s a c r a, ~ r o 3 . ~ S p a c i n g ~ s u g g e s t s ~ t h e ~ w o r ~}$ was abbreviated here
rinr The supplement is rathcr long; it is possible that the papyrus omited kar after orov with $\mathfrak{B}^{47}$

niless $\eta \mu \in$ pac $\bar{\gamma}$ was writte ${ }^{\text {win }}$; то $\pi \tau \omega \mu a \mathfrak{B}^{47} \mathrm{AC} 046$ and some minuscules. The line scems too short, rriants are attested.
165 єcc $\mu[$ [nquecov: this is the reading of C pc. Line length suggests that the papyrus read something
 I $66[\mathrm{E}] \pi \iota \tau \eta \subset[\gamma] \eta\rangle c$ : the high point might have been misplaced; it would bc more suitablc after $\varepsilon \pi \iota \tau \eta c$ $\gamma \%$ in line 169 .


 which makes it very unlikely that the papyrus followed $\boldsymbol{\mathcal { N }}_{2344}$ in reading ovtoo or $\pi \rho \circ \phi \eta$ Tai oo $\bar{\beta}$, or that it mitted

 $\beta^{47} \mathfrak{N} \mathfrak{M}^{k}$.




175 ]. [: Assuming an average of $36-37$ lctters to the line we would expect to find here traces of $\nu \in \phi \in \lambda \eta$. However, the horizontal stroke above the linc suggests the dash of a numeral, a nomen sacrum or perhaps a hark of deletion. The trace of ink below the stroke looks like part of upsilon or nu.
Between line 174 and line 177 (as restorcd) there is room for two lines. The page break must therefore ave come between lincs 175 and 176
$\rightarrow$

180 ]. [.]. $\tau \omega$ : before $\tau \omega$ traces of something coming upwards from the left and joining a vertical. The
expected reading is $\delta o \xi \Delta v$, but the traces do not scem to match it. xpected reading is $\delta o \xi a v$, , but the traces do not sccm to match it.


r83 o $\bar{\zeta}$ a वरүedoc：A omits o，but the supplement would still be too long unless $\epsilon \beta \delta$ ouoc was written as a figure（as it is in $\Re^{3^{47}}$ ）．

$194 \kappa]$ cu $\rho[$［oc］： C reads к $\kappa \eta \rho \rho с$ ．


P ${ }_{0} 46$ M
刃．
 of the papyrus are damaged，it secms that the scribe forgot the tau and later inserted it between nu and alpha doubt a gap was left before кau at the start of a new verse．
${ }^{201}$ The supplement is again short and it would make little difference if the papyrus read $\epsilon \delta \delta \theta \eta$ with C for $\omega \phi \theta \eta$ ．
202 Instead of the first avtov the papyrus may have read oov $\overline{K v}$ with $\mathfrak{P}^{47}{ }_{2} 344 \mathfrak{P}^{\mathrm{K}}$ or tov $\overline{\bar{\theta} v}$ with $\mathbb{N}$ ， but all these readings imply a rather long supplement．Possibly the scribe omitted the first averou（so Prim．）． on the papyrus and the letter is certainly not alpha．Spacing requires more than just фwval кaı Bpovrau．
 Bроитаl каи а．бтрата］！．

208 ［L $\beta$ ：the left end of a supralinear bar can be seen．There would be room for $\kappa a$, after this at the end of the line，but it is more probable that it stood in the next line，now lost．This line is more likely to have been at the foot of this page rather than at the top of the next．

Pages 19－20：Frr．（p）to（s）
The leaf may have had 37 lines on both $\downarrow$ and $\rightarrow$ ，but this is uncertain as both top and bottom margin are lost．The avefage number of letters to the line is 31 on $\downarrow$ and 30 on $\rightarrow$ ．Part of a left and of a right margin is visible in fr．（p）．The lateral position of fr．（r），and in consequence that of fr ．（ s ），is uncertain；on fr．（s）see further lines $237-238 \mathrm{n}$ ．
 is read by A P 051，and $\mu$ cyac $\pi u \rho o \mathrm{c}$ by 2351 and a few other witnesses．
${ }_{213}$ The papyrus is not likely to have agreed with $\mathfrak{P}^{47}$ in omitting avoov，
${ }_{214}$ The supplement is somewhat long and no variants are attested．It is again likely that the scribe wrote $\gamma^{\prime}$ for Tpurov（cf．page 13 ，line $\mathbf{1 3}$ ）．
${ }^{216}$ The MSD are and $\epsilon c \tau \eta$（14．92）．It is most probable that the papyrus read icтクŋкє for the pluperfect $\epsilon \iota \tau \eta \kappa \epsilon \epsilon$ ．
 missions．Possibly the papyrus omitted orav $\tau \epsilon \kappa \eta$ ．
$230]$ ．［：the traces are too faint for any attempt at reconstruction，
o］］up［ $\omega$ ］：the suprascript bar is no longer preserved．


${ }_{233} \gamma \eta \nu \quad$［au：the traces are very faint，but the small serif of the vertical to the left suggests kappa． There is a space between the nu of $\gamma \eta \nu$ and the following vertical，although we are not at the start of a verse．

 short．The possibility has been considered of moving the tiny fragment（s）to the left to join with the trace tion of the $\rightarrow$ side（lines $275-276$ ）and most importantly，it does not fit well physically at this point on the $\downarrow$ side
238.239 Thc papyrus may have agreed with $9^{177}$ and C in reading кarךүopoc for кarmy ${ }^{2} \rho$ and with C in reading aurcuv for auvovc．
${ }^{240} \eta$ ך $\dagger$ H $\epsilon$ pace：the traces are very faint．If these are well read and（s）has been placed correctly（sec it with I al．
$\rightarrow 247$ katp［0］p：the traccs are very faint and the reading is only tentative．

 $2053 \mathrm{M}^{\wedge}$ add a．after $\gamma$ yvourut．Since the scquence alpha－iota would probably have preserved part of the tail of the alpha linked to the iota，the papyrus is likely to havc omitted $a$, ，which also suits the spacing better． although the supplement is still long．


 line 256，but it would lcave the next line too short（unless we suppose that there was a repeat of $\pi$ ormc in the papyrus）
${ }_{268}^{258}$ Insteap parus probably read $\eta \eta \eta$ то стора． $\mathbb{F}^{\mu}$ omits $\eta \gamma \eta$ ．


 the corrcction was made by the scribe himself．
 ing $\omega[\epsilon \epsilon$ for $\omega[\kappa$ ，with 046 and many minuscules，docs not entirely solve the problcm
74－275 $\pi \prod \lambda \eta[\gamma \eta]$ ：the lambda is doubtiul，but $\pi \lambda \eta \gamma \eta$ is what we expect at this point．
Pages 21－22：Frr．（t）to（w）
Four fragments from a new leaf．Between fr．（ t ）and fr．（u）there is a gap of 0.5 cm ，and one of I cm between fr．（v）and（w）．Therc is a 0.7 cm margin visible on the left－hand side．As the top and botom margins arc lost we do not know where the pages began and ended，though it is quite likely that the leaf had 36 lines ane each side．The lateral position of（u）is uncertain；sce linc 292 n ．The average number of letters to the is ine is perhaps the most likely．
$\downarrow$

 with $\mathbf{C}$ in reacing indicates that the papyrus did not omit kat daov with $\mathfrak{P}^{47}$ o51 $\mathfrak{M}^{\wedge}$ ．It may have agreced with $\mathbf{C}$ in reading haovc for $\lambda$ aov．




be part of，e．g．，the kappa of кarapo入ोc，in which case the fragment would need to be realigned slightly to the right．


$\left.{ }_{298} \epsilon\right] \lambda[a] \lambda \epsilon!$ so most authorities；$\lambda a \lambda \epsilon \iota$（so $\Re^{47}$ ）is less likely because of spacing．

304 All other witnesses include $\epsilon \kappa$ тov ovpavov cither before or after кaqußalvelv. It is likely that the
 in reading кaтaßppac for кктаßаирєш.




310 avro: so
$\delta$ [ovval: C omits.
${ }^{311-312}$ The average number of letters to the line suggests that the papyrus omitted $v v a$ bcfore ocol
 (homoioteleuton).
$\rightarrow$

 $\varepsilon \subset \subset] v$ or $\epsilon[\pi t$ in the papyrus. Eta is certain and has a horizontal bar above it. If this is a
could explain the short supplement. The slight trace before eta would suit kappa. रis: so $\mathrm{C}_{\text {II }}\left(\epsilon \xi \xi_{\text {ккociui }} \delta_{\text {eka }} \in \xi\right)$ )



324 ro opo[c]: $\tau 0$ is omitted by $\mathbf{C}$.
325 The omission of $C$ (wy (so C )
(so $046 \mathrm{~m}^{\mathrm{K}}$ ) would make it too long, unless make the line too short, and the addition of apit $\mu$ oc after autov 326-327 a] vovov ye[ [ypax tuevov: so most auth is omitted.
is slightly long, but it is very unlikcly that to came at the end of line 325 . The omission of autov kal ro ovo 32 (so $\mathrm{P}_{\text {I }}$ ) would make the supplement too short

330 w [c: omitted by $\mathrm{P} \mathrm{PR}^{A}$.
The papyruié no doubt agr
supplement would be too short.

 suggested in the text, but it is possible that it agreed with C in omitting aurov and including $\omega c$.
 numerical notation (for the lack of consistency in writing figures see also page 20, line 250
would make the line too long.



 the difficulty. Possibly the scribe wrote $\delta \delta o v a \lambda] \lambda o v$.
MSS insert $\epsilon \pi \zeta$, it is most probable that the papyrus ar is no room for evayvedicace $\theta a i$ with $\mathfrak{P}^{4} \mathrm{~N}$. After this most MSS insert $\epsilon \pi \zeta$, it is most probable that the papyrus agreed with o46 $051 \$ 2$
 346 ev фouvク: so $\mathfrak{P}^{47}$ C P ${ }_{046} 6$ and most MSS; $\varepsilon v$ is omitted by A
 and spacing is against it
 ${ }_{5} 12053 \mathfrak{1 2} \mathfrak{M}^{\mathrm{K}}$ (unless kai, before $\tau \eta \nu \gamma \eta \nu$ came at the end of line 349 ). It is likely that the nu of $v \delta \alpha \pi \omega \nu$ wa represcnted by a suprascript bar.

Pages 23-24: Frr. (x) to (z)
Fragments from the following leaf. The average number of letters to the line is 30 on $\downarrow$ and 34 on $\rightarrow$, The upper part of fr . ( x$) \downarrow$ is very damaged, but there are traces of three lines, which probably belong to the


 Tov apviou кa. o кamvac тov; this is too long, but therc are no omissions attested.
 $\omega^{\omega} \nu \omega v, \mathrm{C}$ pc read $\epsilon \kappa$ aumpa al $\omega v o c$. It is quite possible that the papyrus added the article $\tau \omega v$, reading $\epsilon<$ 36 If $k a$ is right K .
before it, as the supplement $\eta \mu \epsilon$ epac is insufficient to fill the spacc. If mavecw is moved down to this line, line 362 is too short.

374 The traces are too slight for any attempt at reconstruction.
 $20539 \mathrm{M}^{\mathrm{A}}$. Since oupavoo would have bcen written ovvow it would have occupied much the same space as vaov,

379 Before $\pi \epsilon \mu \psi[$ there is a vertical line with a curl at the top which seems to be a mark of some sort rather than a lettcr.

 or $\eta \omega \rho a$ tov $\theta$ өpical (so 2053 al.). The cta was probably added by the corrector.


$39 \mathrm{r} a[v]$ ry $[\mathrm{c}]$ : the traces are very faint but the reading, which is that of most MSS, secms possible.

$392-393 \epsilon \epsilon \tau \tau \eta \nu\left[\tau \eta \nu:\right.$ so A C P 046 and most other MSS; $\epsilon \pi \iota \tau \eta<\gamma \eta \subset \aleph ; \epsilon \pi \iota \tau \eta \nu \gamma \eta \nu \Re^{377}$.

396 ax $[\rho]]: \mu$ expı $P^{44^{7}}$.



4500. Revelation xir $5^{\text {- }}$ - 6 ; 17 - 18

$$
\begin{aligned}
& 344 \mathrm{~B} .73 / \mathrm{G}(5-7)(\mathrm{a}) \\
& \mathrm{o} 308
\end{aligned}
$$

$4.8 \times 5.9 \mathrm{~cm}$
Fourth century
Plates I-II
This parchment fragment of the Apocalypse is from the inner top of a small singlecolumn codex leaf. The scribe uses a mannered, clear, seriffed, round hand, written in a carbon ink. The letters are $2-2.5 \mathrm{~mm}$ high and largely bilinear. There are no signs of rulings or prickings, which is surprising as the scribe is extremely skilled. The script closely resembles that of o17r (PSI I $2+$ II 124 + P. Berol. inv. 11863), leaves of a
parchment codex of Matthew and Luke found at Hermopolis Magna. E. Pistelli dated them to the fourth century, Kurt Treu to c. AD 300. P. Amh. II 24, a parchment leaf of Demosthenes is also in a similar hand; this is assigned to the second half of the fourth century in Cavallo and Maehler, GBEBP r 3 c.

The page originally contained 14 lines, giving a written area of c. $6 \times 6.5 \mathrm{~cm}$. The surviving inner margin is $I \mathrm{~cm}$ wide and 0.5 cm remains of the top margin, so that the original page cannot have been less than $8 \times 8 \mathrm{~cm} . \mathbf{4 5 0 0}$ may be compared in particular with another parchment codex of Revelation assigned to the fourth century, VIII $\mathbf{1 0 8 0}=$ ${ }_{\text {or }} 69=$ Turner 163 , NT Parch. io8. This has a page size of $7.8 \times 9.5 \mathrm{~cm}$ and also has 14 lines to the page with identical line-spacing. The hand, however, is quite different from 4500 and they are not part of the same codex.

No use is made of breathings or punctuation. On the flesh side the following nomina sacra occur: $\overline{\kappa v}$ (line 2) and $\overline{\chi \rho v}$ (line 3); $\overline{\theta v}$ is supplemented in line 7 . In line 6 the number 24 is expressed by the cypher $\kappa \delta$.

The only papyri which contain these verses are P. Chester Beatty $I I I=\mathfrak{P}^{47}$, dated to the later third century by F. G. Kenyon, and $\mathbf{4 4 9 9}$ above. In addition to the works cited in the general introduction H. C. Hoskier, Concerning the Text of the Apocalypse: Collations of all existing available Greek Documents with the Standard Text of Stephen's Third Edition (London 1929), has been consulted.

Flesh side
] $\eta \beta$ ßась $\lambda \in \iota[\alpha$ тоv кос]
$[\mu]$ ov $\tau o v \overline{\kappa v} \eta \mu[\omega \nu \kappa \alpha \iota]$
[ $\tau]$ ov $\overline{\chi \rho v}$ avto[v каı $\beta$ асı $]$
$\lambda \in v \subset \in \iota \in \iota \subset \tau о[v \subset a \iota \omega]$
5 vac $\tau \omega \nu$ al[ $\omega \nu \omega \nu$ a $\mu \eta \nu]$
кає оь $\overline{\kappa \delta} \pi \rho[\epsilon \subset \beta v \tau \epsilon \rho о \iota]$
каı $\eta \lambda$ д еv $\eta$ ор $\eta$ cou
$[\kappa \alpha \iota$ о каьр|ос $\tau \omega \nu \nu \epsilon$
[кршv крı] ${ }^{\circ} \eta \nu \alpha \iota$ каи
[ $\delta$ ovval тov $\mu \mathrm{L}]$ c $\theta$ ov
ro $[$ тоис $\delta$ oviouc co $]$ к ка
[тоוс $\pi \rho \circ \phi \eta \tau \alpha \iota \subset$ каı
[

Spacing suggests that 4500 followed $\boldsymbol{\aleph} 2344$ pc bo in adding $\alpha \mu \eta \nu \nu$ after acwp $\quad$, which other MSS omil ob $\kappa \delta$ : so $\mathbb{B}^{47}$ and most MSS; $\boldsymbol{\aleph}^{*}$ A $2055^{\text {bet }}$ omit ot
 with $\mathcal{N} \mathrm{C}$ 051. 16rı, 1854. 2053. 2329. 2344. $2351 \mathfrak{M P}^{\mathrm{K}}$.



The papyrus probably did not add кaı before emecay with $\mathbb{N}$ roo6. 184 I al.
Hair 1: 051. roo6. 1841 al, supported by bo, Tyc (Bea) add o єpरouevoc afice o $\eta \nu$.

$3 \mu \epsilon \gamma a . \times\left[\eta \nu:\right.$ so all MSS except $\mathfrak{P}^{47}$ which has $\mu \epsilon \nu \nu v c a p$.

Cross-bar of epsilon extended as a space fillcr.

 Rev, $\mathbf{x} 7$ most MSS read $\delta$ oudouc tove $\pi \rho \circ \phi \eta \tau a c$, but $\$^{47,35 v i d} \mathbb{N}$ al add кal after $\delta$ oviovc.

12 Only an indeterminate trace survives.

## II. EPIGRAM AND ELEGY

## 4501-2. Epigrams: Nicarchus II?

The Palatine Anthology ascribes various epigrams to 'Nicarchus'. Within these, Weisshäupl distinguished a poet who sounds hellenistic from a poet who, since he seem to imitate Lucillius, must be of Roman date: see Gow and Page, Hellenistic Epigram ( 1965 ) II 425. Since Lucillius worked (in Naples) under Nero, to whom he dedicated his second book (AP 9.572), scholars have tended to date this Nicarchus under the Flavians, and more specifically as a contemporary and model of Martial (K. Prinz, Martial u. die gr, Epigrammatik I (1911) 24 f.; W. Burnikel, Untersuchungen zur Struktur des Witzepigramms bei Lukillios und Martial (1980) 110 ff .,

Some locate him on the spot, in Rome (Aubreton, Beckby); others make him an Egyptian (Schmid-Stählin II i 330; Keydell, Kl. P. IV ioo). Clearly there would be no contradiction between an Egyptian origin and a Roman presence. So far, however, the 'Egyptian' features have proved less than decisive. (i) At AP 11.18 .5 Nicarchus mentions Boubastis as goddess of birth. Herodotus (2.137.5) had already made the identification with Artemis; but the specific context here might suggest local knowledge. (ii) At $A P$ I I.244.4 Nicarchus uses the word $\beta$ ки́кадıc, 'wine-cooler', which Athen. I I. 784 b , quoting Sopater $\delta \pi a \rho \omega \delta$ óc (fr. 24 Kaibel), regards as Alexandrian; and in fact Philostorgius attests it as the nickname of a presbyter, and Epiphanius as the name of a church, in Alexandria (see Lampe, Patristic Greek Lexicon). The word and its derivatives occur sporadically in Egyptian documents, as a 'jar' of meat, wine etc. (see H. C. Youtie, Scriptiunculae (1973) I 520-1; LIX 4002.7 n.); and in patristic texts (many but not all of Egyptian origin) from the fourth century on. To these Keydell added (iii) $A P_{\text {II.243.2, where }}$
 has nothing to do with Egypt. The Macedonian months did indeed continue to be used there, for decorative purposes (U. Hagedorn, ZPE 23 (1976) 143-67); however, documents were dated by regnal years, not by eponymous magistrates as in the epigram.

We now have three papyri from Oxyrhynchus which contribute to the discussion:
L 3725 includes $A P_{5.40}$ and I I.24I, both ascribed to Nicarchus (II).
4501 imitates Lucillius AP r 1.247 (or vice versa?)
4502 includes $A P$ I 1.328 , ascribed to Nicarchus (II)
All three are written on the back of documentary texts, in informal hands assignable to the first or possibly early second century AD ; all the themes, except 3725 fr . I ii 3-8, are or may be skoptic. Two of the pieces $(\mathbf{3 7 2 5}, 4502)$ present individual titles ( $\mathbf{4 5 0 2}$ not consistently); none names authors, which may or may not suggest a single authorship. It would be tidy to regard all three as part of the same MS, and attribute all the poems to Nicarchus II. But there are discrepancies. (i) Verso is written the same way up as Recto in 4501-2 and $\mathbf{3 7 2 5}$ fr. 2, but not in 3725 fr. I (and fr. 3?). (ii) 4502 presents a
regular column of writing; $\mathbf{3 7 2 5}$ too, allowing for its fragmentary condition, looks like continuous text. In 4501, however, we have two blocks of writing separated by a four-teen-line space. (iii) The hands of $\mathbf{4 5 0 1}$ and $\mathbf{4 5 0 2}$ are very probably the same (recto as well as verso); 3725 belongs to the same general type, but looser and less crabbed and different in some letter forms ( $\beta$ with two loops, $\kappa \mu$ and $\omega$ less deep, o smaller, $\rho$ with longer stem). Some of these anomalies could be discounted: (i) may attest only a certain carelessness in making up a roll from used documents; (iii) may reflect the inconsistency of an amateur copyist. But I am at a loss to explain (ii). Certainly, this was not a substantive book-seller's copy, as the sloppy script and (in 4502) corrupt text prove; the writer knew enough to write a forked paragraphos in 4501, yet uses iota adscript indiscriminately in an effort to be correct. If it was a private copy, the oddities of format, the disparity of hands and the irregularity of headings count for less; and we could visualise a personal compilation of excerpts rather than the direct reproduction of an authorial collection (I have even wondered whether the central blank in $\mathbf{4 5 0 1}$ was left to accommodate another epigram not yet excerpted). Such a compilation may have covered a wide range: $\mathbf{4 5 0 2}$ groups epigrams on sexual themes, $\mathbf{4 5 0 1}$ has a more innocent joke; in 3725, if that belongs, scatology follows direct on sentiment.

The papyri show that Nicarchus' work was circulating at Oxyrhynchus in the first century AD . The very fact that it reached there might speak for his Egyptian origin; though it must be said that there was a more general interest in the genre at this period (IV 662, XV 1795, LIV 3724; XLVII 3324 is earlier). The actual content of the new poems contributes little to the question. (i) $\mathbf{3 7 2 5} \mathrm{fr}, 2.8 \dot{\epsilon} \pi i \quad c \phi \iota \gamma \gamma[$ óc? (title) need not refer to an Egyptian sphinx, as $\mathbf{4 5 0 2} 30-7$ now shows. (ii) 4501 transposes the leaky ship joke from the sea to a river (5); plainly a substantial river, but the Nile is not the only candidate. (iii) 45024 I $\lambda o ́ \gamma \epsilon \cup \mu a$ is a word unattested in TLG, but known from documentary papyri; even so, it seems unlikely that a word of such regular formation would be confined to Egypt.

All the known poems in these papyri are by Nicarchus; the new poems may well be his too. The one known poem completely preserved, 4502 I $8-29$, shows two substantial variants against the text transmitted as $A P$ Ir.328. Does the papyrus preserve an earlier version, $A P$ a later (authorial) revision?
4501. Epigram (Nicarchus II?)
$284 \mathrm{~B} \cdot 58 / \mathrm{J}(\mathrm{r}) \mathrm{a}$
$14.5 \times 12 \mathrm{~cm}$
First century?
Plate IX
On one side, written along the fibres, remains of two columns of cursive: apparently a register or the like (ii 4 and 5 begin with check-marks followed by $\alpha \rho t \theta^{\eta} \eta$ ). On the other side, across the fibres but the same way up, fr. (a) offers a margin of 2 cm below a broken top edge, and then five lines of writing. Fr. (b) joins below, to give a blank

7 cm deep, and then remains of three more lines before the papyrus breaks off. I cannot explain this extraordinary format. Indeed, I had tried to place fr. (b) above fr. (a), so that lines $6-8$ would represent the missing middles of lines $1-3$; it was Dr Coles who recognised and demonstrated the correct placing.

4501 was very probably written by the same hand as 4502 , and may have formed part of the same MS. For the relationship with LIV 3725, see above p. 38.

The hand is shaky, with some cursive traits: $\beta$ in I has the cursive shape; crossbars often touch the next letter, and in some cases represent real ligatures, as in 5 $(\pi o) \tau a(\mu \omega t) . \epsilon$ and $c$ are full and round, with their separate caps often flattened; the cross-bar of $\epsilon$ is detached and sometimes touches the upper curve; $\mu$ lopsided, $\pi$ with a curved right-hand side. These features, and the general air of plump ineptness, find their obvious parallels in manuscripts objectively datable to the early Roman period; see $\mathbf{4 5 0 2}$ introduction. The scribe is not altogether to be trusted. He wrote iota adscript correctly (5), and marked the end of a poem with a forked paragraphos; but he allowed himself minor carelessnesses $(3,4)$.

The remarkable phrase $\tau \hat{\omega} \iota \xi v \lambda i v \omega \iota ~ \pi o \tau \alpha \mu \hat{\omega} \iota$ (5) gives a clue to the content. This is a variant of the Leaky Boat joke (the boat is so full of holes that there is more water inside it than out), which appears in Lucillius, $A P_{\text {I } 1.245}$ and 247, and then in Lucillius' imitator Nicarchus, AP II.332. So Lucillius pictures whole oceans in the bilge:

$$
\text { ov̀ } \pi \lambda o \imath ̂ o v, \pi \eta \gamma \grave{\eta} \delta^{\prime} \text { 'Sкєavôv छv入ívך (1 1.247.3-4). }
$$

Assuming that our poem imitates this phrase, rather than vice versa, and given that 4502 includes an epigram attributed in $A P$ to Nicarchus, it is tempting to assign this poem to Nicarchus as a pair to II.332. Note that Lucillius' epigrams concern the open sea, and $A P$ r 1.332 takes place on what may be a sea-going vessel of some size (see Casson, Ships and Seamanship $\left({ }^{2} \mathrm{I} 995\right) \mathrm{I} 69$ n. 5); the present poem concerns a river (5, unless the word is used loosely), therefore either a ferry or a river-transport. Lucillius' epigrams address the captain; Nicarchus' are in the third person.

Fr. (a)

5
 $\omega \rho \mu \iota \subset \varepsilon \in \iota \subset T \eta \nu a v \nu \delta \omega$. [. . .]. [. .]. [.] $\mu \in \nu a$
 $\pi \eta \delta \alpha \lambda \iota \circ \nu \pi \epsilon р \iota \theta \epsilon \iota \subset \tau \omega \iota \xi v \lambda \iota v \omega \iota \pi \frac{\tau}{} \mu \omega \iota$

## $>$

＇$\ldots$ he did not moor［the ship］and us in the harbour：he moored the harbour in the ship．Boy，what shipwright built this sieve？or who was the first to attach a rudder to this wooden river？＇ I Lines 2－5 can easily be restored as elegiacs．The first line might then be（i）part of the poem；or
（ii）something extraneous．（ii）seems less likely．The writing coheres too closely with the poem to be just a doodle；its content，and its position（flush left），show that it was not a subject－heading of the kind found in 3725 and 4502．In favour of（i）：$A P$ 11．332，and the two corrcsponding cpigrams of Lucillius，havc six lines
each．The length docs not show whether the line was hexameter or pentametcr；unless the scribe simply skipped，we should assume a pentameter（the hexameter at the foot of the preceding column）．
${ }^{2} P_{11.332}$ names the helmsman，and Lucillius addresses 11.247 to the naukleros（and presumably Diophantus in 11,245 has the same function）：we therefore expect the name of the captain（who is the subject of $2-3$ ）to appear in line 1 or 2 （or in thc omitted verse，if there was one），presumably in the nominative． That leaves the qucstion what to do with the possible vocative（s）in I，and the vocative $\pi a i$ in 4 ：does $\pi$ raic narrating poet on his journey（ 2 í $\mu \hat{a} c$ might include him）？
I $\epsilon \chi$ ．$\epsilon v \in \epsilon \ldots$ ．［：after $\chi$ ，remains of a circular letter with ink in the middle？after $\epsilon \epsilon, \lambda$ ．or perhaps $\mu$ ． （i）$\dot{E} \neq \hat{\epsilon} \mathrm{c}$ might suit the aorists which follow（and begins six epigrams in $A P$ ），But then $v$ seems certain：how to continuc？（ii）$\chi \chi \theta \in c \dot{v}$ ．（iii）＇$\chi x \theta\langle\rho\rangle \bar{\in} c\rangle$（that would introduce a vocative，cf．4，but requires us to assume a misspelling）．（Note however that，among the examples in TLG，è $\chi \theta \rho \bar{\epsilon}$ most often goes with a dative，as at

Adesp． 1105.180 KA ；the verb in Aristophanes，Nub． 363 ．）
 subject．Onc pattern would be $\left.\mathcal{C}_{\pi \epsilon \in[\nu \delta \omega \nu} \pi \alpha ́ \kappa \pi \omega \vartheta\right]$ a（or a ship＇s name：Greek ship names tend to be feminine， but there are exceptions；Roman ships are masculine as often as feminine：for lists，see L．Casson，Ships and Seamanshìp（ ${ }^{2}$ 1995）350－360；Michel Reddé，Mare Nostrum（Bibliothèque des Ecoles Françaises d＇Athènes et de Rome，Fasc．260）（ 1986 ） $665-72$（I owe this latter reference to Dr W．E．H．Cockle））．
 inscrtion of $\nu$（easily skipped）is a small price to pay．In the latter part，there are some doubts．What is printed
fits the overall spacc very well．The difficulty lies in fitting letters to traces between $\delta \omega \rho$ and $\mu$ eva．Provisionally， I have taken the first visible trace to be the serifed foot of $\tau$ ，and discounted a dubious second trace（though that might be accommodated to $\lambda$ ）．
 or slave（who might know the answers）？
$\tau_{i c}$ ．Nothing visible of $t$ except an oblique trace at line－level，which I have taken as a left－pointing serif such as occurs elscwhere on the feet of uprights．It must be admitted that this would be a very substantial examplc．On the other hand，I do not sce where else to go；a，which might have a prolonged oblique nose， would be too wide for the space．
at to join the following $\eta ; \lambda$ is gost sugsested written：the trace is an oblique right－hand foot，flattening
rò $k[06] ⿳ c \kappa$ cvov：a sieve，i．e．full of holes（so Lucillius applies the word to a boxer＇s head，$A P$ II． 78 ）．The
 Proverbia IV（1982）300）．

End：if $\kappa[\dot{o}]$ cкcvov is right，the next letter must be a vowel；traces perhaps fect of two uprights turning

 much elsc．$\delta$ ग $\pi \rho \hat{\omega}$ Toc seems to suit the traces，and I suppose it might hint at the familiar curse on the $\pi \rho \hat{\omega} \pi o c$ it does not suit the traces．
$5 \pi \epsilon \rho \theta \in \theta_{i c}$ ．If the context is rightly reconstructed，this should mean＇attaching a steering－oar to the wooden river＇．The original sense is clearly＇put around＇：so of physical objccts that cnclose，a wrcath（AP＇
6.341 .30 ），a mask（ 11.212 .3 ，Demades fr． 48 ，de Subl． by cxtension，you may clothe someone with de Subl．30．2．4），clothing（Chariton 4．3．7），fetters（Paus．3．15．11）． Ches．231，Isoc．，Phil．78），fortune or misfortune（Antiph．，Telt．I．3．1，Aesch．， HL 5 I），pride or grief（Plu．，Per． 4．6，QS 2．610）；rhetoric clothes small things with greatness（Isocr．，Paneg．8，Aristotle，Rhet． $1368^{2} 29$ ）．That

 can be seen as a clear metaphor，＇investing with＇；the last two perhaps show a weakening．But in any case I do not find a parallcl for the verb referring to a concrete object which by its nature is not enveloping．
 As Dr Rea remarks，noтau $\hat{\omega}$ ，which seals the joke，is deliberately left to last．I assume that the word refers to a＇river＇as such，not to something likc the Homeric＇及кєаvòс потано́c
－8 This mayk，forked paragraphos．
－8 This may or may not be verse．The remains correspond to the last third of the lines above．
4502 10 aupaul．．The first trace would allow $\lambda$ ；that would point to（ - ）$\lambda$ áu $\beta$ 人v＇（imperfcct？imperative，of
4502 Io．，
7 ］yar．av．［：after $\tau$ ，probably the left leg of $\lambda$ ；at the end perhaps the down－turning left－hand tip of a horizontal near the top．${ }^{*}{ }^{\prime} \tau \lambda \alpha \nu \tau T$ ？

P．J．PARSONS

4502．Epigrams（Nicarchus II）
103／164（a）
$11 \times 28 \mathrm{~cm}$
First century？
Plate $X$
A single column to full height，with 46 lines，written across the fibres；the top margin survives to 1.5 cm ，the lower to 2.3 cm ．On the back，and with the fibres therefore on the original recto），are line－ends and beginnings（lower right）from an account；the beginnings have check－marks；at least some of the amounts are in drachmas and obols．

The hand looks to me the same as in $\mathbf{4 5 0 1}$（and Dr Coles is inclined to identify also the documentary hands on the rectos）；see above p． 38 on a possible connection with 3725．It is a sloppy half－cursive written with a blotchy pen（the scribe sharpened it，or took a new one，before starting the new poem in 18）．$a$ and $\epsilon, \gamma$ and $\tau$ regularly igature to the following letter．The effect is very roughly bilinear，except where the scribe reduces his letter－size at line－ends．Among letter－forms，note：
$A$ sometimes roundcd，sometimes sharp－nosed（the nose in one movement，the upper part often straight， he lower concave）
$B$ always in the open－topped cursive form
$E$ in two movements (the cap scparate), sometimes in the cursive form (the cap curving down to ligature a a vestigial cross-bar), more often as the left-band half of an oval or circle with the cross-bar dctached and projecting to the right cven when there is no ligature
$H$ with the right side strongly curved and often written in one movement with the cross-picce
$K$ often has the junction of the b
$M$ the legs curved, the belly touching the line
$N$ the oblique often projccting above the left-hand uprigh
$O$ sometimes small (not filling the linc-height)
$\Pi$ with the right upright short and strongly curved
$P$ the loop normally a descending curve joining a flat base
$T$ often with the left-hand cross-piece written in one movement with the upright, the rest of the horizontal added more or less neatly to the right (the 'Ptolemaic' shape?)
$X$ sometimes at least the left branch and upright in one movement
$X$ the right-hand extremities extended, flattening and curving, the upper down and the lower up
$X$ the right-hand extremities extended, flattening and curving, the upper down and the lower up $\Omega$ some
movement.

There are no certainties in trying to date so informal a hand, even from this relatively large sample. Comparable literary scripts are XLVII 3324 (assigned i bc/i AD); LIV 3724 (first hand), LIII 3700, L 3522, XLII 3004, XIX 2221 + PKöln V 206 (all assigned to i AD); LXII 4306, L 3538 (both assigned i-ii AD). Comparable literary scripts which carry an objective date appear in GLH ga and especially ioa ("first half of first century') and iob (30-35); add PSI X in 76 (Norsa, Scr. Lett. pl. iıa) (before 59-60), PLitLond 6 + PRyl III 540 (Seider II 2 1) (before 88/9). Other dated documents from Oxyrhynchus with similar scripts: XLII 3020 (Augustan?), XLVI 3267 (c. 37-41), XXV 2435 (mid-i?), XLV 3250 (c. 63), XXXIV 2725 (71); from elsewhere BGU III 1002 ( 55 BC), PKöln III 147 (Augustus), WChr 59 (PGB 15 b) (39), PMert I 12 (58), PSI 459 (Norsa, Scr. Doc. pl. I4) (72), PSI XIII 1319, second hand (Pintaudi, Papiri greci e latini a Firenze pl. XIV) (76)

I should compare this hand with that of $\mathbf{3 0 2 0}$ and, among objectively dated parallels, with $G L H$ ioa ('first half of first century') and Iob (AD 30-35)-though some of the same features still continue in 14 (Paeans), whose date falls in the second century Overall, the grouping of distinctive letter-forms, and the general air of ineptness, seem to point to the first century and earlier rather than later. It must be admitted, however, that the second criterion is unreliable: how are we to tell whether 'ineptness' is a feature of style or of personal incompetence? It may be simple coincidence that all Roberts examples look gawky; LVIII 3915 (AD 30, more or less contemporary with GLH 1ob), or XLVII 3332 (53), or XLVI 3273, show that the same general forms could be displayed to much more elegant effect.

The scribe uses a wider line-space to set off the heading of a new poem $(9,38)$, but not to set off poems with no heading ( 18,30 ); if there were paragraphi, they have been lost with the left-hand margin. No punctuation, no lectional signs; elision is effected but not marked. Iota adscript is written where needed (except perhaps in $6 \pi \in \iota \theta \eta \subset$ ), and frequently where it is not $(8,23,28,32,35,37,4$ I)-the would-be correctness of
the amateur? The general orthography is correct, except for a few itacisms. Yet the copy is careless to a degree, as becomes clear in 18-29, where we have also the text of $A P$ : some of his errors might be phonetic ( $\omega \nu$ and ov confused), but many represent simple misreading ( $\kappa a I \omega$ for $\kappa \alpha \Gamma \omega$, $T_{\circ} \lambda \iota \eta \nu$ for $\Pi_{\circ} \lambda \iota \eta \nu, \nu \epsilon \kappa T \omega \nu$ for $\nu \epsilon \kappa \mathcal{Y} \psi \nu$ ). In $39 \mu \eta$ for $\mu \nu c$ might belong to either type, but in any case ruins the sense.

At least five epigrams are to be recognised, all skoptic and indeed sexual. Of these two are introduced by a heading $(9,38)$, two follow straight on without title or spacing (18, 30):

I-8 [pederastic]

$8-29=$ AP XI 328, Nicarchus (II) ( $\tau \rho \iota \pi o \rho v \in i a)$
30-37 [pederastic]

3725 too has titles, but consistently; it looks as if the omissions in $\mathbf{4 5 0 2}$ are negligence on the part of the copyist (or of his source?). Such explanatory lemmata go back at least to SH 985 (iii BC ). It is normally assumed that they are editorial; if that is so here, it adds a further stage between the authorial circulation of Nicarchus' poems and the making of our copy (unless indeed the copyist himself devised the headings). There is no trace of author-names. That does not prove unitary authorship, but the material and manner of the new epigrams allow, and perhaps recommend, a common attribution to Nicarchus. A complicating factor is the presence in 18-29 of what look like substantive author-variants.
top
Ј $\nu \alpha \mu \eta . \pi v \gamma!\zeta \epsilon . . \pi \epsilon \mu \mu$.
]. $\mu \epsilon$. . $\in v \rho \in[] \alpha<\alpha \mu \phi \iota \beta \epsilon \beta$. [
]. $\tau \in \mu \ldots \subset . \_\iota \iota \theta \alpha \ldots$
]ov. []aıovко入入отау[
5 ]. $\mathrm{5} v \pi v \circ \nu \pi v$. . $\epsilon \mu \in \epsilon$. [
]ov $\delta a v \pi \epsilon \iota \theta \eta<o \rho . \quad \lambda \epsilon$.
]єıгєькацарьขаขоүартото

] $\epsilon \pi \iota \gamma \epsilon \rho o \nu \tau o c \pi \alpha \rho \theta \epsilon \nu$. [
1o ]. $\epsilon \nu$. $\omega \rho \alpha!a . \mu \eta \lambda \alpha \mu[]. a \nu[$
]єлє $є \pi \lambda$ оитоикитрıса . [
] $\omega \nu$ оиц̆ $\eta$ лоискаь $\delta \alpha к \rho$ [
]. vскаıұvлоукаиттıсау[
]. $\epsilon \chi \in \pi \epsilon v \zeta \omega \mu$ Һוcтас $\epsilon \lambda$. [

］．аєкотv入аıскаьот $\lambda \alpha \tau v$［

］$\mu \iota \alpha \nu \epsilon р \mu о \gamma є \nu \eta с к а \iota \omega \pi о т є к \alpha \iota \delta \iota \delta$ ．［
］єขє！скоьข．укขтрьขарıстобıкך．［
үшто ．．прал．．
］．$\rho \in \cup \vee 0 v \pi \alpha \nu \tau \epsilon c \tau \alpha v \tau$ ．$\delta \iota \epsilon i \lambda \alpha \mu \epsilon$ ．

］атоуєıсафаขך七Хшроуvтєрхонєขос［
］．кт．$\nu є \kappa \tau \omega \nu к \alpha \iota є \rho \iota \nu є о \iota \eta . ~ є \mu о є \nu \tau о с$
25 ］．$v \nu \tau \alpha \iota \pi \nu \circ a \iota \subset \delta \nu с к \epsilon \lambda a \delta$ ．$\epsilon \nu \epsilon \mu \circ \nu$
］a $\delta, \theta \epsilon \subset \delta \iota \delta v \mu \alpha \rho \chi о v o c o v \rho a \nu о \nu \epsilon \iota \subset \alpha \nu \epsilon$ ，a！$\varphi$［
］$\lambda_{0}$［．．］． $\epsilon^{\epsilon \nu} \chi \epsilon \rho \iota \pi$ ．
 ］cav．$\in \subsetneq[] \tau \eta v \gamma \rho a v \nu \omega \delta \in \delta \iota \in \iota \lambda o \mu[.] \theta a$
］єıcє $\chi \in \lambda \in \gamma \in \iota \nu \in \subset \tau \iota \alpha[$ ．

］$\chi є \rho \alpha с а \mu ф о \tau є \rho о v ~ . к \nu \beta \delta \alpha \chi а \mu а \iota т . ~ . ~[] . ~ \pi о v с ~$
］$a \lambda \lambda \omega \iota \delta a v \tau \omega i \delta \epsilon \tau \rho \iota \pi о v \subset \tau о$ єф८к⿺𠃊卩avт．．

］．$a \nu \tau \iota \iota \delta \iota \epsilon \lambda о \iota \tau о с о \phi \omega \tau \epsilon \rho о \nu \epsilon \iota \tau \epsilon \theta \cup \pi \eta \rho \chi \circ \nu$
］$\delta \rho \epsilon \subset \epsilon \gamma \omega i \theta \eta \beta a c \in \subset \chi$ оvavє $\pi \tau \alpha \pi v \lambda о \cup[]$
］
$\epsilon \pi \iota \mu \circ$＜रov



］．єиськр $\alpha<о \psi о ф а \gamma \omega і \lambda о \pi а . \delta \alpha$

］．vсаүєєєсаvтоvкаıтоүv．．оva $\mu a$
$45] a \nu \epsilon c \tau a \mu \epsilon \nu . . a \chi ̣ v \nu \epsilon \iota \delta a \tau \alpha v \tau \alpha \delta о \mu \circ$ ．
］． 0 เтๆү $\mu$ ．$\phi \eta \nu \tau \omega \iota \pi \alpha \tau \rho \iota \tau \omega \iota \delta \in \pi \alpha \tau \rho \iota$
］

## foot

n $n$ ，apparcnt vertical ink，too far left to belong to $\pi$（ $n \tau \pi$ ？ $\epsilon .$, apparently broken ho rizontal
2 ］$\mu$,
 $\left.\begin{array}{l}\text { poss to right，} ¢ \text { or } \epsilon \text { ，depending on the correct spacing of the fragments ．．a，apparcnly upright wiht blob } \\ \text { at top }\end{array}\right]$ ，upright，junction at botom left $\quad \mu$ ，upright？then lower lefi－hand quadrant of small at top $\quad 3$ ］，upright，junction at bottom Icft $\mu$ ，upright？then lower left－hand quadrant of small
circle？ tops of two upright elements and a vertical further to the right，$\omega$ ？after $c$ ，elements of $\eta$ ？4．$\nu$［］， upright curving rightwards at base，probably first element of $\omega$ ；perhaps space for one letter following（surface stripped），depending on the relative placing of overlapping edges 5］．，prima facie lower part of ${ }^{\circ}$ of horizontal at line－level，hole above $\begin{aligned} & \text { ．［，top of upright } \\ & \text { concave ink to right，} \pi \text { or } \gamma \text { ？}\end{aligned}$［，upright joining high horizontal， concavc ink to right，$\pi$ or $\gamma$ ？？7 ］．，right－hand extremities of $\kappa$ or $\chi^{3} \quad 8$ ．，to left，high ink on
underfibres；then upright with ink joining it from the left at mid－height（single stroke？or right－hand junction of $\phi ?$ ？$\quad 9 \nu .[$ ，blob of ink at half－hcight，adhering to the right－hand upright of $\nu$ ，broken to right （probably part of next letter，not just casual） 10 ］，horizontal trace at onc－third height，touching back of $\epsilon \quad \nu$ ，small left－hand arc，more upright ink aftri gap ${ }_{0}$ ，foot of upright，lower part of oblique descending from left to right $\quad x 1 \quad \epsilon$ ，upright with horizontal extending right－wards at top $(\gamma, \pi) \quad a \mu c$ ．［， short upright trace on edge I3 ］．$v$ ，lower arc（trace on loose scrap，with more ink to left；transcript
assumes that this scrap should be rotated downwards to the left by $90^{\circ}$ ，so that the initial ink provides the assumes that this scrap should be rotated downwards to the left by $90^{\circ}$ ，so that the initial ink provides the
first trace of I4）
I4 ］．，low horizontal tracc；on the loose scrap，oblique descending from left to right？

 small right－hand arc，o or possibly $\omega$ ？．［，part of upright，possibly joining near top horizontal or descending ink to right I8．［，high oblique trace descending from left to right $19 \nu$ ，top and foot of tall upright，further upright trace to right［，remains of upright，perhaps obliquc tracc descending from its top
upright to the right $\quad \begin{aligned} & 20 \text { oblique rising from left to right，perhaps remains of another descending from its top，} \\ & \lambda \text { ，short oblique at line－level descending from left to right } \\ & \text { ．}\end{aligned}$ ，short upright，to apright to the right for short ligique at inc－－cvel descending from teft to right 2. ，short upright， right perhaps top and foot of oblique descending from left to right 21 ．，pernaps lower left arc，on
twisted fibres which need to be moved closer in $\tau$ ，oblique descending from left to right，perhaps more ink to lower left $\epsilon_{\ldots}$, ，small oval letter，middle damaged；point of ink at line－level，perhaps another higher $22]$, right－hand arc of circle ．［ ，short high horizontal trace on the edge 24$]$ ， horizontal at mid－height $\tau_{\text {，}}$ ，small left－hand arc，more ink on damaged fibres to right $\eta$ ，parts of two uprights，damage between $\quad 25$ ． 25 ，horizontal trace touching top of $v \quad \delta_{0}$ ．，second，foot of upright，
damage to right 268 ，ink level with the letter－tops，hole below $\quad 27$ ，to left trace on tiny scrap attaching herc but perhaps not bclonging 28 ］ ，damaged fibres，then upright perhaps joined at foot by oblique descending from left $a$ ，lower part of upright $v$ ，trace at two－thirds height $29 \nu$ ， ink level with the letter－tops，more to righi touching $\epsilon$ at mid－level ， $30 \tau$ ，perhaps simply $\tau$, ，the cross－ piece of $\tau$ prolonged to the right（not $\pi \tau$ ）vy．，，part of high horizontal and of vertical below；upper arc ou，upright curving rightwards at foot；to left，across a gap，possibly top of upright with horizontal extending
to right right hole at fourth，upright preceded perhaps by oblique slopin

II ］．，upright trace on the edge，more ink（horizontal？）to middle left 32 ］．，horizontal from left joining top of o？［，back and curving top as of $c \quad[$.$] ，the space may be less than it looks（the papyrus is warped） 1$ ，rising and descending obliques as of $\lambda$ or second part of $\mu \quad v$ ：clements of circular letter ${ }^{\nu}$ ，small trace，upright or lower right of circle？ $33 v$ ，upper and lower arcs of circular letter $\tau$ ．，first，back and lower rc of round letter，more ink in the middlc？］，oblique descending gently to join $\pi$ at two－thirds height ink at ，see commentary ${ }^{\circ}$ ，foot of upright or oblique rising to right，then foot of upright joining horizontal $\tau$ ．，top of oblique descending from left to right，or upper right－hand arc；ink level with
ind letter－tops，tip of horizontal or rising oblique from the left？ 36 ］．，apparently right－hand branches of $\kappa$ or possibly $\chi$ ，but unexplained vertical ink running through（ $\pi$ ？）；not $c$ ． 39 ］．［，oblique tracc，rising gently from left to right，on promontory of papyrus projecting down from the line above second，apparently horizontal at mid－height joining upright to right ${ }_{41} \lambda_{0}$ ，omicron corr．from cpsilon？
 44 ］，shadowy traces of upright on damaged fibres $v$ ，ink level with letter－lops（unless this belongs to u），then perhaps foot of oblique descending from left to right joining foot of upright；rounded nose as of $a$ ；
upright on the edge $\quad 45 \nu \ldots$ ，left－hand arc of circle（ $0, c$ ）；oblique tracc rising from left to right at linc－level；top of upright（unless this belongs with the previous trace），horizontal at two－thirds height rising gently and then levelling out to ligature with a ．［，traces of tall upright on the edge 46$], 0$ ， apparently thc claws of $c$ ，but some vertical ink remains uncxplained；traces above $o$ ，remains of a corrce
or correcting letter？ $\phi$ ，oblique trace rising gently from left to right，more ink immediately to right，furthcr or correcting letter？$\phi$ ，obique trace rising gentl of the very top and perhaps the foot of the prolonged upright，and a short oblique trace to the right

$$
\begin{aligned}
& \text {.] } \nu \alpha \mu \grave{\eta}\{\text {. }\} \pi v ́ \gamma \iota \zeta_{\epsilon} \ldots \pi \in \mu \mu \text {. . } \\
& \text { ]. } \mu \epsilon ., \epsilon \dot{v} \rho \in[] a c \dot{\alpha} \mu \phi \iota \beta \in \beta \text {. } \\
& \text {.]. } \tau \in \mu \ldots \subset, \iota \pi \iota \theta \alpha \ldots \in[ \\
& \text {.]ov } \dot{\varphi}[\rho] \text { aiov ко́ } \lambda \text { дотаv[ }
\end{aligned}
$$

5

］ovסavaєєcӨ $\quad$ coo ．．$\lambda \epsilon$ ．［



 $\mu \eta \delta] \epsilon ̀ \lambda \epsilon ́ \gamma \epsilon \epsilon$＇$\pi \lambda$ oútov Kúmpıc ả $\mu \epsilon[\iota \nu o ́ \tau \epsilon \rho \circ \nu$＇．

．．．］．vc каì $\chi$ vдòv каi $\pi \tau \iota c a ́ v[\eta \nu \cup \cup$


．．．］．aє котv入aıс каì $\delta \pi \lambda a \tau v$［－



20
 єîc $\gamma] \alpha \hat{\alpha} \rho$ 光 $\nu$, ov̉ $\pi \alpha ́ v \tau \in c ~ \tau a v ̂ \tau \alpha ~ \delta \iota \epsilon \iota \lambda \alpha ́ \mu \epsilon \theta a$,



$\delta \iota \nu] \in \hat{v} \nu \tau \alpha \iota \pi \nu \nu\langle\iota\rangle a i ̂ c ~ \delta u c k \in \lambda a ́ \delta \omega \nu$ ả $\nu \in ́ \mu \omega \nu$ ， $Z \hat{\eta} \nu] a$ §è $\theta$ €̀c $\Delta \iota \delta u ̛ \mu a \rho \chi o \nu$ ，ôc oủpavòv єicaveßaıv［ тò $\psi o] \lambda o ́[\epsilon \nu]$ катє́ $\chi \omega \nu$ ย̀v $\chi \epsilon \rho i ̀ \pi$ ．．．．．











## ®ì $\mu \circ \imath \chi o \hat{v}$





ôc］$\mu \epsilon \tau \grave{\alpha} \tau o \hat{v} \mu \sigma \chi \chi o \hat{v} \delta\langle\epsilon\rangle \iota \pi \nu \hat{\omega} \nu \Delta a ́ \mu c \omega \nu o c,{ }^{n} A \lambda \epsilon \xi$ ，

 ．］．o九 $\tau \grave{\eta} \nu \mu о \mu \phi \eta ̀ \nu \tau \hat{\omega} \iota \pi \alpha \tau \rho i \tau \hat{\omega} \iota \delta \grave{\epsilon} \pi \alpha \tau \rho i ́$

## 1－8 Epigram I

A pederastic epigram，probably complete：eight lines is a standard length；line I looks like a beginning， A pederastic epigram，probably completc：eight lines is a standard length；line I looks inke a beginning，
and is takcn up by the closing joke in 7 ．It is true that there is a wider line－space between 2 and 3 ，as above and below headings；but the same happens between 15 and 16 ，which cannot be poem－end．
A negative praeceptum amons，as in Io II．The poct apparently warns $X$ not to bugger Y：the place，like
Camarina，produces harmful discharges．If this overall interpretation is right，the new poem parallels the heterosexual II．329．Not enough survives to show whether either or both parties had a name（II． 329 identifics the addressec as Demonax，but no particular object of his affections）．
The certain supplement in 7 shows that c .3 letters are lost at the line－beginnings．But note that the hand very irregular；e．g．omicron occurs in larger and smaller forms．
 if the two negatives cancel out）．I have wondered whether the same name（if such $\mu \eta$ is）recurs in $-\mu$ evoc and 8 －roc；but see below on the readings
$\pi \epsilon \mu \mu$ [: cakes? If so, how do they fit the context? 'The boy is well-fed, thercfore flatulent (cf. Henderson,
The Maculate Muse ${ }^{(2}$, The Maculate Muse ( ${ }^{2}$ I991) $\left.\$ \$ 418,425\right)$ ?
Herc or later, we need a vocative,

Herc or later, we need a vocative, and an object?
 (but there is no trace of thc cross-bat; $, c, c, \tau(\rho), v, \chi$. Alcr $\mu \epsilon$, pcriaps at or $\lambda \iota$ (alpha would be untypically
small?), but $v$ not cxcludcd; then left-hand arc of circle, further ink to right but not much space (the papyrus is squashed, and might be spread morc widely, but not very far if $\mu \eta \pi v$ rathcr than $\mu \eta[$. ] $\pi v$ is right in I), Then perhaps ej̇péac; but if so, the diacresis must fall before it, and that implies that at least two or thre


 hardly $\omega$. In the context, one could think of the meaning 'bestride': 'straddling those broad ...? ? with glance at єíри́трюкктос?
 beginning), damaged trace and hole, then probably $\rho \omega c \eta \iota(\rho$ rathcr than $\beta$, if this scribe always uscd the cursive form of beta).
 5.158 .1 I . Not $\pi t$ tavevouevoy on the which in turn would suit a context of erotic temptation (e.g. Asclep.,

Com. fr. 202.5 KA; Diphil. fr. 42.22 , Eubul, fr. 1o.3 KA' ко
 tradition, perhaps as early as Aristophanes of Byzantium, tended to limit the word to adults (thus Hesych.

 context (the verb often of refusing partners).



 here (the mid-point of the poem), in a more emphatic form: 'Don't touch him even in your dreams' (for the Greek equivalents scc Pagc, Epigrams of Rufinus ( r 978 ) 98 ).
$\mu \in \mathrm{c}$. [: Henderson $\S 236$. But of course one could divide $\pi \tilde{U}_{\boldsymbol{\gamma} \gamma} \zeta^{3}$.





7-8 'Do not stir Camarina. The place ... discharges a stinging missilc against your manhood.'



 $\mu \grave{\eta} \pi u^{\prime} \gamma \zeta \zeta_{\epsilon}$ at the beginning
$\delta$ o yà róroc. Commonly of body-parts, and especially of the pudendum muliebre (LSSJ s.v. 3). But, as Dirk Obbink observes, the word is carcfully chosen to give the illusion (initially) of an innocent geographical excursus.
8
${ }^{8}$.1. oc. The omicron very small, but no other letter seems likely. Before that, an upright with complex ink joining at halt-hcight: probably not $\nu$, but $]$, coc (which also makes best use of a relatively
Dr Coles suggests $\$$ 中 10 , to account for the spread (a flattened ' $v$ ' on its side) of the first trace.

400: Strato Ap 10.2254 the wit of Heracles').


 (more epic).

What is the weapon let fly? (i) peliconum mentula merdalea est (Priap. 68.8): the joke gocs back to Machon 327-32, and recurs often cnough in Latin (see Buchhcit, Studien zum Corpus Priapeorum (1962) I44; Courtney
on Juv. 9.44). Mcineke tried to find the same idca in Asclepiades, $\Lambda P$ I2.42.4-5, but see Gow and Page on on Juv. 9.44). Mcineke tried to find the same idca in Asclepiades, $\Lambda P$ i2.42.4- 5 , but sufers. (ii) For mop $\rho \dot{\prime}$ a
Hell. Ep. 1526; a close parallel in Strato, $A P$ 12.225.4, where again it is $\eta \eta \eta$ that suffer weapon cf. Hor. Serm. 1.8.4.6; and the Charition mime III 413. Nicarchus (who celebratcs King Fart in $A P$
 (if recognised) of marshy exhalations.

## 

An old man should not marry a young wife: it ends in tears and cuckoldry. This piece secms to rework well-worn themes: marry young (Hes., WD 695); a young wife docs not suit an old husband (Theogn. 457 Eur. fr. 804); marriage costs money (Men. fr. 198; Automedon, $A P$ II. 50 ; that prcsumably is the point of Lucillius, $A P P_{11.388 .6 \text { - 'if you marry to have children, you will be too poor to care for them'), and mercly }}$ benefits the lover next door (Thcogn. 460; Anaxandrides fr. 53.11-12 K

9 Title. The heading begins above syllable 4 (out of 15 ) of line 14 , thercfore should, if centred, end bove syllable 12. If so, therc is room for c. 10-12 letters after the break

tion above.
to Here, or in the lacunas below, we expect a vocative, and perhaps a formal statement that the Io Here, or in the lacunas below, we cxpect a vocative, and perh
bridegroom is elderly (but the alert reader will infer this from to and I ).

II The contrast of amor and divititue can take various directions: for cxample, there are dangers in miving a wife for her (he reversc: your moncy buys you only misery ( 12 ) and eventual penury ( 17 ).
Last trace, remains of upright ink on the cdge. à $\mu \in[$ [vór $\epsilon \rho o v$ just exempli gratia (the double comparative is attested at Mimn. fr. 14.9 W and in the anonymous lines quoted by [Ps?] Philo, de aeternitate mundi 4 r .8 (=


$\left.{ }^{12} \mu \eta \delta^{\circ}\right]$. This assumes that the poem is constructed as a serics of prohibitions (concluding in a gnome, ${ }^{16} \mathrm{f}$ f.?).
 of Philodemos no. 13). Presumably those of the jealous husband (as in Philodemus those of the distracted lover) 13 Slops, for the aged or the sick. "The emotional distress will put you in the hands of the doctors 'You will find gruel more suitablc to your age than drinking'?

1. vc. Prcsumably a food coordinatc with the nouns that follow, say $\zeta \omega \mu \mathrm{l}$ ]ov́c (but why the plural?) or то $\lambda \phi$ joúc (but too long?). Pollux $6.6 \mathrm{I}-2$ collects some related words.
 тарори̣̂;; Cyranides $\mathrm{I} 5 \cdot 9-20$ (pp. 44-5) Kaimakis, where the plant is antiaphrodisiac but the seeds aphrodisiac
 eruca see e.g. Mart. 3.75.3. On aphrodisiacs in general, Hopfiner, Sexualleben (1938) 273-305
15]. $\psi \in \epsilon$ c: small ambiguous strace, if trace at all (on twisted fibres). The ending might belong to a noun
 §340; Juv. 10.206). $\kappa \tau u ́]$ cecc, cf. in similar context $A P$ to. roo.6, cannot be rcad.


 and the futures，might suggest a gnomic summing－up．The subject might then be the expenses of the marriagc
（cf．$A P$ Io．II I）．What would

 $A P$ 8．I72．I）．But already there are difficulties．（i）］$]$（or $\mu$ ）suits the trace，but auro入］looks too long； $\bar{\eta} \delta \eta] \delta^{\prime}$ ai would fit better，but the ink discourages $] \delta$（no real sign of the base）．（iii）The papyrus certainly has кoтulauc ngthened $\delta$ ．The lengthening is normal with Philip＇s poets（Gow and Page GPI p．xxxyiii）hiatus is not though see ibid．p．xli on Crinagoras．
Furthcr difficulties arise in 17 ．Apparently ］occomarpys，where $]$ o might perhaps be $] \omega$ ，and the final $c$ seems to be corrected from $v$ ．On the simplest view，the scribe wrote pov and changed it to pqc；but that is too simple，since the supposed omicron（a blob much smaller than the normal letter）looks to have becn it as the final version．Then we have two possible articulations：

 frayou follows so close．
（ii）］oc cwmarp－．This sequence is not attested except in the proper ocs use＇Sosipatros＇as the subject of a thin－man joke，$A P$ II I I Po．But the names though potent ially ， ， do not serve elscwhere as indicators of status（＇．．．have brought even aristocrats to poverty＇）．If there is a direct reference to the name of the husband or the wife，I do not see how to fit it in without substantial
 ther Sopaters too to poverty）．
A quite diffcrent approach would take the poct as the adulterer，so that＂ुyayov is first person singular；


## 18－29 Epigram III：AP XI 328 Nєкápхо

Beckby＇s edition（1958）reports the text of the Palatinus as follows


そ̉火








Corruptions apart，the papyrus shows two substantial variations of text：the name Didymarchus instead of Cleobulus（twicc），and apparently a different sentencc－structure in $9-10$ ．Did Nicarchus revise his text for a second（or collected）edition？

18 кau pap．：кả ${ }^{1} \mathbf{P}$ P，rightly，
 In the Anthology，Didymarchus does not otherwise appear，Cleobulus does，notably as amatus in Meleager （named from Anacreon＇s boyifriend？）and living acquaintances or fictional types．Herc one could argue tha Kleoboulos＇puts thc sage in an undignified posiure（just as all scven sages deliver laxative precepts in their tavern at Ostia，see Meiggs，Roman Ostid ${ }^{2}$ 429）；＇Didymarchus＇could then be a speaking name，cf．AP 5.126 .6 ； Sider，Epigrams of Philodemos P． 141 （Sider notes DL6．51：$\Delta i \delta \delta \dot{\prime} \mu \omega \nu$ was caught in adultery；Diogcnes the Cynic

Something similar happens in the pocm transmitted under the heading M［V］acádkou in PKöln V
204．14－17 but ascribed to Hegesippus in $A P 6.266$ ．Howevcr，so little of the contcxt survives that the variation of name can be explained away（Cameron，The Greek Anthology from Meleager to Planudes（1993） 3 f．）．

Martial offers interesting parallels，discussed by W．M．Lindsay，The Ancient Editions of Martial（ 1903 ） 2 T for example at I．10．I，where the MSS vary between Gemellus and Venustus．（No doubt it is coincidental that Gemell－corresponds to $\triangle \delta \nu \mu-$－，Venustus to pretty－boy Kлe．קouloc．）Some thavc supposco e that samc has been claimed，say，for Lateranus／Damasippus at Juv．8．I46）．But if it is true that Martial never attacked living persons，both cxplanations fail．A third possibility is aesthetic：an editor，or Martial himself（Pasquali，Storia della Tradizione ．．．425），decided to replace onc fictional name by another more telling in the context．In any case the variations scem too large be explained simply as scribal ncgligence（N．M．Kay，Martial Book X （1985） 4 n．12）．
 Greck（Gow \＆Pagc on GP 2885），apart from its presence in NT and increasingly in documents（Gignac 1 344 f．），and might even be thought to add a colloquial touch．However，we should assumc that the poet used the same form in both lincs；and that the scribe was more likely to corrupt the strong form into the weak than vicc versa．
av̌a pap．：$\pi \alpha ́ v \tau \alpha ~ P$ ，rightly（rav̀тa or $\tau a \grave{v \tau a}$ ruins Nicarchus＇doublc polyptoton）

 linc for alpha；o or $\omega$ could be read，and in that casc the corruption was wider）：＇${ }^{2} \nu \theta^{\prime}$＇ákrai $\nu \epsilon \kappa \dot{u} \omega \nu \nu \mathrm{P}$ ．
 $P$ ，rightly．
 $\delta \nu c \kappa \kappa \lambda a ́ o \omega \omega \nu ~ « \nu \in \in \mu \omega \nu$ P，rightly．
$26 \delta_{\epsilon \in \theta \epsilon c}$ pap．，as Pauw：$\delta \in \epsilon \theta \in c$（the first sigma deleted） P ．





 yet it all spoils the point：Zeus does not normally wield a rudder，


## 30－37 Epigram IV：the Sphinx unriddled

An obscene explanation of the Riddle of the Sphinx．Apparcntly not the same poem as 3725 fr．2．8－10


The riddle, as quoted from the fourth-century litterateur Asclepiades of Tragilus (FGrH ${ }_{12}$ F 7 ), begins
 D. Mastronarde's text of Euripides' Phoenissae ('Teubncr, 1988) pp. 6-7; it has been dcbated whether the
original gocs back to cpic, or only to tragedy (H. Lloyd-Jones, Acodemic Papers I (r990) $332-4$ ). original gocs back to cpic, or only to tragedy (H. Lloyd-Jones, Academic Papers I (r990) 332 -4).
 where an astrological puzzle is resolved obscenely.

yain, not - $\eta$ c: $\dot{e} \pi i \gamma \hat{\eta} \mathrm{c}$ (rarely $\gamma \hat{\eta} \nu)$ in the riddle.
$3^{31}$ oij $\theta$ E cic: the traces seem to suit theta (parts of cross-bar and right-hand arc) better than delta. In Attic Roman pcriod (Thrcatte, Grammar of the Attic Inscrithtions I (he Hellenistic period; oid $\delta$ eic reasscrts itself in the show both forms coexisting into the sccond century AD (Gignac I 97). Is the use herc a vulgarism? or a look
back to New Comedy? back to New Comedy?
 \& Petersen citc no compounds). Therefore a[, .]. must represent a single iambic word. The gap has room
for two or threc letters; the final trace is no more than ink level with the letcr-tops. We could look for a for two or threc letters; the final trace is no more than ink level with the letter-tops. We could look for a
proper name (but I have nothing more plausible to suggest than ${ }^{*} /[\delta \omega] y$ ). Simpler would be $\dot{a}\left[\nu_{i}\right]$ (J. R. Rea); and very much to the point, since (as Dirk Obbink remarks) it recalls the straight answer to the riddle (äv $\theta \rho \omega \pi$ oc) before subverting it with $\pi a \theta$ uróc.
$\pi a \theta t \kappa$ óc. The noun had been known only from loucher Latin (Cat. 16.2, 57.2, Juv. 2.99; of women,
 prccisely in Nicarchus (AP ${ }_{\text {II }}$. 73 .7). Mcanwhile David Bain, ZPE 117 ( ${ }^{\text {(9997) }}$ 81-2, has identified a second
Greek example, a graffito backstage in the Odeum at Aphrodisiss: the popular borrowirg into Latin is confirmed'.
$3^{2-3}$ An ingenious pcrversion of the straight explanation (the child crawling on all fours); the participle
 $\dot{a} \pi \epsilon \rho \epsilon \epsilon\left[{ }^{\dot{d}}\right] \mu \epsilon \nu_{0} \mathrm{c}$ scems very likcly, but the scribe may have written o rather than $\epsilon$.



old man and his stick' (Tpitcatov nóóa Bákтpov wc therefore cxpect a perversion of the straight answer tempting: that would be the third leg, as prcsumably in Theocritus' description of Priapus beginning, $\phi a \lambda \lambda \hat{\lambda} t$ is Gow thinks this 'improbablc', and prints Jahn's emendation dcceedect). However, the palaeography is no straightforward: some elements of the ink suit $] \phi$ or perhaps $] \downarrow \phi$, but I cannot explain all thc traces; $\theta$ a $\lambda \lambda \hat{}$

aater, $\phi$ кkiov can be recognised. $\Phi$ itcov is the mountain of the Sphinx, [Hes.], Sc. $33(=$ fr. 195.33). There

 there is a pun, it ignores quantity: Herodian explicity attcsts the accentuation $\phi$ ircc, which would suggest that the first syllable was short.

How can thesc elements be combined? Before фıкelov, $\tau$, , $\xi$; the traces most suggest thc lower parts of $\nu$ or $\pi$; perhaps $\delta$, though the space seems narrow; not $\tau$, since there arc too many feet. After $\phi$ wkiov, avT.
auvococ or aùroê look suitable, but not other cases of the pronoun. After that, 35 presumably continues i r] pónov, which might link the whole verse or just the initial phrasc. I have no ideas that do not involve
 leg with his phallus, and ...'. And then? If the next clause expands the same joke, it might perhaps mean '. and his backside (is) like the rock nearby in Thebcs' (sticking up in the airr). But pcrhaps, as Dirk Obbink suggests, wc should see it as a sccondary joke of mythological pseudo-etymology: '... and his backside is
(explains the name of) the rock Phikion near Thebes'

35 Prcsumably $\pi \lambda \eta c i o v: ~ \eta i \lambda \eta c i o v$ pap.

36 ci $\tau 6 \theta$ ': $\epsilon \tau \epsilon \theta$ papyrus. I assume that the sense must be 'If I had then existed, gendemen, 1 would ve won Thebes' (by solving the riddle better than Oedipus) ; it remains a question whecher è $\gamma \omega \bar{\omega}$ attaches to


37 av $\delta \rho$ ecc so Strato, $A P$ I2.254.2; and the programmatic address to the reader which began Agathias nthology, AP 4.3a. Did the epigrammatists simply borrow this from New Comedy (sce e.g. Handley on Ien., Dysk. 194)? or had they their own specific audience (at symposia or recitations) in mind?
étranừovoc; (Boeotian) Thebes, Il. 4.406, Od. 11. 263

## 38 ff. Epigram V: 'On an adulterer'

'You are cntrusting cheese to a mouse, hay to a donkey, honey to bees [?], chicory to geese, boar to dogs, raiment to slaves, a cloak to a shivering man, the entrance fees to a theatre-manager, meat to athletcs, a casscrole to a gourmet--you, Alexis, who, dining with the adulterer Darmon, bring your woman near him as well. Risen from table, hc'll corrupt her; and thus [your son?] docsit look 'lke [.] you, whs father -bul like his (real) father.'
Dining out gives the scducer his chance: that is a regular theme of Roman poctry (thus Horacc, Carm 3.6 .25 fI;; Ovid., AA I. 229 fff, 569 ff., Am. I.4 with McKcown, Juv. I. 57 with Courney).
$39 \pi \tau \mathrm{c}$ T Gevect looks very likely (the first tracc is of $\gamma$ or $\tau$ ). The first four lines represent a kind of priamel, in which first animals, then slaves, then pcoplc, arc juxtaposed with something they might find desirable and indeed consumable. The priamel has its own internal construction: crescendo from mouse to gourmet, chcese to casserole; in $4 \mathrm{~T}-2$ two balancing pairs - the indigent against the capi
cating) foodic. Symbolic food then leads on to the real dinner in 43 .
$\mu \nu t{ }^{\text {t. }} \mu \eta$ pap., a clear corruption (graphic, or phonetic?). For mice and checse, cf. Tvpoydépoc, Tvpoфáyoc Batrachom. 137, 223.
 $\mu \ell \lambda \mu \eta \eta:$ an unsolved problem. The traccs most suggest $\mu \eta \eta$, , thought $\mu \eta!$. could bc considercd, on
syllable should be lost at the end. What creature is drawn to honey, as mice arc to checse? Bcars cat it




40 xncci cefpes. There are other creatures that enjoy cndivc. Ammianus, $A P$ II. 4.43 .3 , lists it among the dishes at Apelles' dinner more fit for $\pi \rho \sigma$ Bara than his friends: but oici (too short) or $\beta$ Bouci cannot be read In fact, the second trace suggests a horizontal at two-thirds height: that, and the space (since $\chi$ is typically
very wide) would suit $x \eta$ ucc; seris is mentioned as a favourite food for geese by Varro RR 3 .10.5 and Col. 8.14.2
 $\tau \epsilon \tau \dot{d} \rho \tau \omega$ B $\beta \omega v$ ap. Athen. XII $522 \mathrm{D}=$ fr. 48 Wchrli (a transparent garment worn by the luxurious Tarantines); Men. fr. 414 (and Pollux there quoted). $\pi \alpha \rho v \phi \notin \subset$ Aristoph. fr. 332.7 KA , among the luxurics of Attic ladies. There presumably the idea of luxury lies in $\pi a p-$-s something is woven into, or around, he plain weave. Slaves wore a tunic, Juv. I.93 (the spendthrift does not even give them that); they might gct some kind of cloak, Pers. 1.54, Juv. 9.68. What is the idea hcre: slaves (so prcsumably, not 'kids') will grab any garment? or a garment more covering or more elcgats line, we have two clothing jokes on the trot. Symmetry would
little odd; and if $\tilde{\mu}$ ] átoo is restored in the next

$4_{1}$ [ $\mu$ ] aroov: to judge from the spacing, the scribe wrote $\epsilon \mu$ arıov. This is normally an outer garment, to go on top of the $\chi \iota \tau \dot{\omega} v($ scc Bauer-Aland s.v.). Of possible alternatives, $\kappa \tau \rho \omega \mid \mu$ átiov looks too long.
$\theta_{\theta \in a r \rho}$ wivp quoted by TLG only from Theophr. Char. 30.6. A. Müllcr, Lehrbuch der gricchischen

 IG ii ${ }^{2} 1176$.
$\lambda$ dryevea docs not appear in TLG, but does occur in documentary papyri; it there means 'sum collccted',
 wheat．）Since this is something appetising to the theatre－lessor，does the word here refer to ticket money？or
hould we visualise three tiers？－－the city rents its theatre to the lessor，who then collects fees from companics using it？
$42 \dot{a} \theta] \lambda \in \dot{\nu}\langle o v\rangle \subset \iota$ к $\rho$ éce．There are two problems here．（i）Space at the line－bcginning is short for the two
syllables required by the metre；if this was a noun in syllables required by the metre；if this was a noun in－evce，I have found nothing suitable．（ii）The scribe apparently wrote кpoac；$\delta$ iкpoac cannot be read．The double conjecture printed restores the cliché of the
beef－cating athlete：for material see J．Haussleiter，Der Vegetarismus in der Antike（1035）Dirk Obbink alternatively 〈roic〉 if］Peicu（a glance at the proverbial greed of Delphians at the sacrifice，see Pfeiffer on Call．fr．191．27）；but the initial oblique trace seems less suitable to rho，which normally has a straight stem．入omáda．The shallow（lidded？）casserole，illustrated by B．A．Sparkcs， $7 H S 82$（1962）I30 and pl．VI．In Gomedy it has frequent associations with fish and with sizzling．By transfer，the word may mean＇a savoury （though there＇shellfish＇，would also suit）．Dr Rea 12.44 .3 （Hell．Ep．．1813），and perhaps Hipparchus $S H$ 496． the spelling in $-0-$ is quoted from Galen 670 and as a variant at Theophr．HP ${ }^{2} 6$ ．more usually $\lambda \epsilon \pi a c$ ， and already in Plautus Rud．297，fr． 102 as transmitted．The limpet certainly figures with other cdible shellfish （Athen，86－7），and as a delicacy（among molliculas escas）at Plautus Cas． 493.

43 位
But for a Damon in Nicarchan contextal function in epigram：$A P 7.540,12.35$（amas）； 11.125 （undertaker）． But for a Damon in Nicarchan context note 3725 fr．3．6．
but a priest in $A P 6.51$ and an incompetent doctor in $A P$ ；so always in Martial as a borrowing from Virgil），

 （＇bring him and your woman close together＇）？That would be more pointed than $\langle c\rangle$ autó
youpapov．Wife，presumably，if paternity is an issuc in what follows．
45 I havc considered two rcadings here．
high ink and a rising horizontal which I have taken as the c is represented only by a low oblique trace，then of this are that $c$ would be rather small；$\kappa$ would touch the following letter，which is not normal；$\chi$ must be corrected to $\kappa$ ．Nonetheless，it might give a suitable，if banal，sense：＇As soon as he has got up from table，he will corrupt her＇．For this sense of the verb：the iambics printed as Com．Adesp．138．2 Kock（omitted by KA）
 fii）．．．］à $\nu$
fit the sense．AAs soon as you stand up，he＇ll speed you on your way？－so as to be left alonc with your wife In either case，I find it difficult to suggest a connective supplement for the line－beginning：e．g．oủke $\tau^{\circ}$ ］ or $\left.\epsilon^{3} \theta v^{\prime} c\right]$ would be too long，judging from the plausible restorations in $39-44$ ．
45－6 The repetition of matpt suggests that paternity is put in doubt by aduitery．The lover fathers the
child，and the husband unsuspectingly accepts it？Or each fathers a child on the same woman $45 \delta o \mu 0$ ．［．The trace is upright，descending somewhat below the line，One could think，say，of $\delta$ of $\mu$ of［ if a construction could be found．But $\delta \dot{\alpha}$ रaìra suggests consequenccs，and that suggests a new clause thereforc divide $\delta^{\prime}{ }^{\prime} \mu_{0}$ ．［，and consider supplements from ö $\mu$ ooo（legitimate children resemblc their father Lucillius $A P_{11.215)}$ ．

46 тìv $\mu \circ \mu \phi \phi_{\eta} \dot{\prime}$ ：the first $\mu$ seems likely，though somewhat damaged（at least I cannot make any better scnse of it as $a \lambda$ or $\lambda a)$ ；the second depends on a short initial rising oblique，and does not explain what seems
to be the foot of an upright well below the linc．Gideon Nisbet observes that，if this is to be the paternity joke，$\mu \circ \rho \phi \eta \nu$ would fit the sense much more directly；it is tempting to think that a second $\mu$ was corrccted to $\rho$ ，but the low upright trace seems actually too low for the typical $\rho$ ．
If we accept $\mu$ oophip as reading or emendation，and the basic sense as＇your child looks，not like you his

 length），we have to provide a verb．I had thought of $\delta \eta$ ］ doî or the like，but $]$ c looks very likely and I cannot think of a verb to incorporate it；in any case oi］has its advantages．More cconomical would be $\delta \mu o[[0 \hat{i}$
 s not ideal；and in any case the subject，if it is the child，is still missing．I see no way of meeting this difficulty scept by emendation，i．c．by writing $\pi$ aic in place of $\tau \eta \nu$ or of the first rewt．
ost with the left－hand margin；an isolated trace lower down to the right，below the alpha of $\pi a \tau \rho t$ ，has no obvious significance．

P．J．PARSONS

## 4503－4507．Anoubion，Elegiac

## Plates XI－XIV

Hephaestion of Thebes（2．2）writing in the 380 ＇s could quote from $A \nu o v ß i \omega \nu$ ev
 preserve parts of this poem on the science of astrology by Anoubion of Diospolis which circulated at least as early as the second century．His collection of astrological lore，like that of his predecessor Dorotheus Sidonius，was an authoritative source of predictions to professional astrologers down through the Byzantine period．

Attribution of 4503－4505 is secured by the fact that they can be seen turned more or less word for word into Latin in sections 2．4．I－6 and 6．29－3I of Firmicus Maternus＇ Mathesis．Firmicus elsewhere（4．I．I）seems to credit Anoubion as a source（see below）． Use of Anoubion by Firmicus in book 6 was first postulated by W．Kroll，CCAG II （Ig00）159－60，cf． 204 n．I on the basis of correspondences between Firmicus and a
 full as Dorotheus fr．II 14－33 pp．345－67 Pingree；cf．CCAG II 159－80）．In the ms． （Cod．Venetus）this follows on directly from a brief anonymous prose treatise（CCAG II $202-3$ ）in which four elegiac distichs are quoted（without author）．An additional elegiac distich is quoted explicitly from Anoubion by the late antique astrological writer
 means S．Weinstock，＇A New Anubio Fragment＇，$C d^{\prime} E 27$（1952） $210-17$ identified a direct link between the astrological elegiacs P．Schubart 15 （P．Berol．inv．9587，iii AD） and Firmicus 6．31．78－85，pointing to Anoubion as their author．4503－4505 therefore confirm Kroll and Weinstock，and show that Firmicus derived much else from Anoubion besides．The new fragments，presented below with their corresponding sections in Firmicus printed in parallel columns，roughly treble the number of verses of Anoubion previously known，and expand our view of an author who was previously but a little－ known figure of legend

4503 contains the proem，introducing the principles of the science，especially the $\dot{\omega} \rho o v o ́-$ $\mu \circ \iota$ ，＇hour－regulators＇and $\delta \epsilon c \pi o ́ \tau a l$ ，＇ruling signs＇in divination by astrology． 4503 and 4504 together preserve parts of the body of the poem，consisting of a catalogue of individual predictions．

4505 gives us further excerpts, and also a book division, colophon, title, and book number: Book 3 .
4506 and 4507 are identifiable as astrological elegiacs, but have not been localised; they provide additional testimony for astrological elegiacs on papyrus, and add a few words to the poetic repertoire of the Greek astrological poets. III 464, P.Ryl.III 488, P. Schubart 16 and PSI III 157, together with Manetho bk. 5 and Julian the Arian pp. 255, 260 Hagedorn (see introd. to 4506), likewise contain astrological elegiacs and have on this basis alone been claimed for Anoubion, but these lack the exact textual correspondence with Firmicus found in 4503-4505 and P. Schubart $I_{5}$
The Poem: an ambitious composition, on a scale which challenged the author's talents: 4505 and P. Schubart 15 show at least four books. $4503-4505$ come from book 3. It contained its own proem, addressed to a reader or potential astrologer in the second person, covering principles of the science and 'operator's instructions' for the use of the book. Subjects of books I-2 are unknown; presumably they covered other main divisions of the science: the orderly arrangement of the fixed stars, the $\tau \dot{a} \xi \iota c$ of the sun, moon and five planets and their conjunctions and phases (the paraphrase CCAG II 204-12
 Book 3 treated the ávazo入at, 'risings' of the $\dot{\text { @ povórpot (cf. Clem. Alex. Strom. VI } 35 \text { ff.) }}$ and the $\delta \in c \pi o ́ \tau a \iota$ at the hour of birth as a determination of one's fate. Book 4 (probably in part P. Schubart I5) may have been a miscellaneous collection of predictions.

Noteworthy is the emergence of a proem and of second person direct addresses ( 4503 front fr. 2.6; back fr. 2.3-6 esp. 5 d $\gamma \gamma \epsilon \subset \lambda \epsilon!a c ;$ var. lect. in 4504 ii 2 єv̌pouc; 4505 fr. 2.5 є́vì $\theta \epsilon i c \in i c \eta ;$ cf. Anoubion ap. Hephaestion 2.2. (p. go Pingree) v. I $\mu \dot{\alpha} \theta$ ouc). They add a new dimension to A.'s poem, revealing an author who is less of a hack compiler, and one more fully engaged in the literary if lapidary construction of an authoritative didactic poem. The identity of the addressee, and whether he was named, are unknown. Did the Greek-Egyptian author, with a suitably theophoric pseudonym 'Anoubion', address his poem to a priest-in-training, a $\dot{\omega} \rho o \lambda o ́ \gamma o c ~ w h o ~ w o u l d ~ r e p o r t ~ h i s ~ f i n d i n g s ~ a s ~ ' ~$ the proem says ( $\mathbf{4 5 0 3}$ back fr. 2.5)? For the practice of predictive astrology by priestly staff in Greco-Roman temples see A. Jones, 'The Place of Astronomy in Roman Egypt', Apeiron 27 (1994) 25-51 esp. 41-6. Dorotheus' poem was addressed to his son (1 pr. 3 pp. 3, 16I Pingree); his predictions are often couched in the form of what one should say to the person consulting the astrologer (e.g. 5.34 v. 4 p. 407 Pingree $\varphi \rho \alpha ́ \zeta є о ~ \nu \in i к к а ~$ $\tau a \hat{v} \tau a)$. Cf. 4503 back 3-6. The author of the Manethoniana, in keeping with his pseudonym, dedicated and addressed his Apotelesmatica to 'King Ptolemy' (6.i $\beta a c \iota \lambda \epsilon \hat{0}$ $\Pi_{\tau 0} \lambda_{\epsilon \mu \alpha \hat{i} \epsilon, \text { cf. 35, 207, 5.1). Petosiris and Nechepso also seem to have addressed a king: }}^{\text {a }}$ $11 \tau 0 \lambda \epsilon \mu$ ait, cl. $35,207,5.1$ ). Petosiris and Nechepso also seem to have addressed a king:
frr. $37-8$ Riess, (Philol. Supplbd. 6 (1891-3) 327-94; Pingree, 'Petosiris, Pseudo-', in Dictionary of Scientific Biography io (1974) 547-9) $\tau \hat{\varphi} \tau \iota \mu \iota \omega \tau \dot{\alpha} \tau \omega$ ßacı $\lambda \in \hat{\imath}$ (they may also have written in verse). Firmicus Maternus addresses his prose Mathesis to his associate Mavortius, who is frequently exhorted. Manilius dedicated his Astronomica to Caesar (Augustus) in the proem to book i, though the address is later forgotten. On the
addressee in astrological literature see D. Konstan, in Conventional Values of the Hellenistic Greeks, edd. P. Bilde et al. (1997) ${ }^{5} 59^{-76}$ at 160 with n. 9; in didactic poetry generally: J. S. Clay et al. edd., Mega nepios: il ruolo del destinatario nell'epos didascalico, MD 31 (Pisa 199). Housman took a dim view (on Manilius 3.vi) of its significance: 'Liars need not 1994). long memories if they address themselves to fools, who have short ones. An astrological poet writing his third book may safely forget his second, because an astrological reader will never remember it'. Even as a thinly veiled literary device, the second person address giving 'operators' instructions' may point to a purported practical use.
Relation to Firmicus: $\mathbf{4 5 0 3}$ - $\mathbf{4 5 0 5}$ show that Firmicus' Latin version in book 6 is not only dependent on A.'s Lehrgedicht as a source, as Weinstock demonstrated, but is an almost word-for-word translation of it (so already R. Merkelbach, APF I6 (1956) 86 on P. Schubart 15). Close correspondence with the Latin version allows for a precise reading and reconstruction, showing in places how faithful Firmicus could be to his Greek sources; the divergences show how much change the tradition could undergo, either revised and refined by successive astrologers, corrupted by scribes, or excerpted and anthologised by editors. Firmicus' divergence from the Greek text is apparent at e.g. 4503 back fr. $2.9^{-12}$ and $\mathbf{4 5 0 4}$ ii $2-4$. In some cases we must reckon that the difference between Anoubion and Firmicus is due to alteration in the transmission of the former. For we cannot be certain that the text as witnessed in the papyrus was in every case identical with the one used by Firmicus or an intermediary.

Firmicus' version eliminates the second person addresses, exhortations, and asseverations, prosaically elaborates A.'s lapidary poetic diction, and embellishes some of the predictions at the end of A.'s third book with exempla drawn from figures of mythology and history, from Oedipus to Demosthenes, who, he claims, instantiate persons who were born under the signs and who were subject to the predictions in question. It is were born under the signs and who were subject to the predictions in question. It is
clear from 4504 and $\mathbf{4 5 0 5}$ that the exempla were not present in Anoubion, though we find them in Manetho. Their absence makes A.'s verses look bare and practical by comparison. In addition to embellishing the predicted outcomes, Firmicus refined and in some cases appears to have materially altered the technical content in A., namely, the positions of the planets which determine each prediction, no doubt adding new ones of his own devising or from other sources.

Structure: Firmicus' text establishes the order of Anoubion's fragments as they appeared in the original poem. After a systematic proem ( 4503 front), it covered (at least) the same ground as sections $29-3 \mathrm{I}$ in book six of Firmicus (predictions of ill-omen, especially under the influence of Venus). 4503-4505 can all be ordered within these ection Firmicus
(i) $4504(\sim 6.29 .23-30.3)$
(ii) 4503 back ( $\sim 6.30 .6$ )
(iii) $4505(\sim 6.30 .20-3)$
(The ordering as presented in this edition is slightly illogical, since $\mathbf{4 5 0 3}$ back is presented following directly upon $\mathbf{4 5 0 3}$ front. In the original poem, $\mathbf{4 5 0 3}$ back would have fallen between 4504 and 4505 .) Within each fragment the predictions themselves follow the same order as in Firmicus. This makes it possible to reconstitute the original order of the fragments in A.'s poem according to the sequence in Firmicus. In addition to the borrowings in book 6, Firmicus also borrowed material from A.'s proem in $\mathbf{4 5 0 3}$ front (or a common source very like it) for his introduction in book 2 (sections I-4). 4505 preserves the end and colophon to A.'s book 3 . This book division also exactly corresponds to a structural division at Firmicus 6.30 .26 (see on $\mathbf{4 5 0 5}$ fr. 2.13). This means that P. Schubart 15 ( $\sim$ Firmicus 6.3 r. $78-85$ ) must come from book $4+$. Some of the quotations of A. in Hephaestio and others, dealing with astrological method, technique, and principles can be conjecturally placed in one or another of the books. See on $\mathbf{4 5 0 3}$ front fr. 2.15.

Life and Times: Many astrologers composed predictions which circulated in hexameter collections, and a select but distinguished cadre of Greek and Latin didactic poets
 known to us or to the compilers of the late-antique handbooks who wrote elegiacs is Anoubion (so already Kroll, CCAG II 202 n. r). Of Anoubion himself we know barely enough to constitute a myth of authorship. According to ps.-Clement Rom., Homil. $4.6,2$ he worked as an $\dot{\alpha} c \tau \rho o \lambda{ }^{\prime}{ }^{\prime}$ oc at Diospolis. Presumably he hailed from Diospolis Magna, capital of the Theban nome in Upper Egypt with its great temples, rather than the nearby Diospolis Parva, or Diospolis кá $\tau \omega$ in the Delta. This accords well with the name, which occurs frequently in the Theban region (though not, of course, exclusively so), being formed from the root of Anoubis, the jackal-form divinity worshipped there (see R. Bagnall, B. W. Frier, and I. G. Rutherford, The Census Register P.Oxy, 984: The Reverse of Pindar's Paeans, Papyrologica Bruxellensia 29 (Bruxelles 1997) 24, II4-18). In addition the area was renowned as a centre of esoteric science: see P. Kingsley, Ancient Philosophy, Mystery and Magic: Empedocles and the Pythagorean Tradition (Oxford 1995). According to the Suda entry, the Ptolemaic priest and historian Manetho also came from the Theban Diospolis (alternatively he was from Sebennytus, or a priest at Heliopolis); later on Hephaestion worked there.

Ps.-Clement (ad loc.) gives Anoubion his greatest claim to fame: a prominent place among the thirty $\mu a \theta \eta \tau a i$ of Simon Magus, thus putatively in the time of Nero (Riess, $R E_{\text {I ( }}$ (894) 232I-2). Anoubion is singled out, together with the Alexandrian grammarian Apion $\Pi \lambda \epsilon \iota \subset \tau о \nu i \kappa \eta \subset$ and the Epicurean philosopher Athenodorus of Athens-a circle of dubious intellectual authorities (philosopher, astrologer, grammarian), who could have rubbed shoulders with the famous wizard. No doubt they were carefully chosen to lend credibility to ps.-Clement's novelistic account (M. J. Edwards, 'The Clementina: A Christian Response to the Pagan Novel', CQ42 (1992) 259-74; id. 'Simon Magus, the Bad Samaritan' in M. J. Edwards and S. Swain, Portraits: Biographical Representation
in the Greek and Latin Literature of the Roman Empire (1997) 69 91). According to ps.-Clement, Apion and Anoubion cultivated an allegiance to Simon, until his expulsion from Egypt and flight to Sidon; after this they tried to distance themselves from him. Simon's interest in astrology (for which see Edwards in CQ, pp. 86-7) accounts for ps.-Clement's association of him with Anoubion. The association becomes more credible ps.-Clements association a was the author of recondite yet fashionable didactic poem on the subject which circulated in contemporary circles, one which directed readers to try their hand at the art. Apion was a well-known Alexandrian intellectual and scholar, also noted for his role (which brought him to Rome) in anti-Jewish activities at Alexandria, opposed by
 Athenodorus of Athens is otherwise unknown; perhaps his name was chosen for its geographical associations, adding Athens to Alexandria and Diospolis, and implying that Simon drew followers from a broad spectrum of centres of learning. Objections to the identification may be raised: there may well have been more than one astrologer named Anoubion who worked in Egypt-where the name is common: an Aurelios Anoubion, public doctor appears in LXIII 4370; an Aurelius Sinouthis son of Anoubion in LX 4090, etc. And there is no testimony that ps.-Clement's Anoubion wrote verse. On the other hand, the fact that only one Anoubion is recorded (and uniquely as an On the other hand, the fact that only one Anoubion is recorded (and uniquely as an
elegiac poet) in the later astrological tradition suggests that the link is more than coincidental, and that the author of the pseudo-Clementine homily appropriated a figure of notoriety in order to lend plausibility and contemporary colour to his account.

In the fourth century Firmicus used at least those passages which correspond with 4503-5, P. Schubart I5, and CCAG II 202-2I2. At 3.I.I Firmicus cites as his sources for the horoscope of the world 'Hanubius' and 'Aesculapius': mundi itaque genituram hanc esse voluerunt secuti Aesculapium et Hanubium, quibus potentissimum Mercurii numen istius scientiae esse voluerunt secult Aesculapium et to mean that Hermes Trismegistus revealed the principles of astrology to the gods Asclepius and Anubis, and that he depends upon their teaching. That Firmicus' 'Hanubius' is identical with the poet Anoubion (so Usener, RhMus N.F. 55 (1900) 335 n. I) has been doubted (e.g. Gundel and Gundel, Astrologoumena ${ }_{1} 56$ n. 45). But Firmicus tells us further that 'Aesculapius' in fact had revealed these secrets in a book, entitled Moirogenesis (so the Budé editor, P. Monat, Firmicus Maternus, Mathésis, vol. 3 (Paris 1997): myriogenesis MPR $\mathcal{N}$ Kroll et al., see her explanatory note, vol. 3, p. $285-6$; Aesculapius' book also cited at 5.I.36 and 8.I8.I). It is reasonable to think that Firmicus similarly used writings by 'Hanubius' (i.e. Firmicus' Latin version of ${ }^{2}{ }^{2}$ vovBí $\left.\omega v\right)$ On these grounds Weinstock suggested that Anoubion is a theophoric pseudonym formed from Anubis/Anubius, and that the poem is thus pseudepigraphical. Comparable in this respect would be the writings that passed in antiquity under the names of Hermes, Orpheus, Nechepso and Petosiris, Ammo. In a work by Ostanes (fr. A i BC = Psell., ed. Bidez, Cat. alchim. gr. 6.44) Anubis appears as a commentator on a famous alchemical work, the Heptabiblos of Hermes Trismegistus. But the inclusion of Anoubion in a historical context by ps.-Clement seems to suggest at least a belief in a known individual who, under the name of Anoubion, had gained a degree of notoriety.

The papyrus fragments show that the elegiac poem which passed under his name was in circulation by the second century. Notices of him by Hephaestion and later astrological writers betray a view of him as a didactic technician, rather than a mythical bearer of revealed knowledge. His reputation as an astrological writer persisted through the Byzantine period. Tzetzes (Exeg. Iliad. p. 33, 15; 54.1 Herm. $=$ Dorotheus fr. IIIc-d Stegemann, Appendix III F I-2 Pingree) includes him together with Dorotheus and Kolokynthos in a list of astrological writers. Pseudo-Clement's association of Anoubion with Egypt and Diospolis may mean that the name conveyed hieratic associations (the author of the Manethoniana adopted his pen-name not from a god but from the famous Ptolemaic Egyptian priest and historian) or local colour.

At the same time the relative dating of Anoubion and Manetho is not clear. Judged by his simpler, lapidary constructions, limited poetic vocabulary, and the absence of rhetorical exempla (see below on $\mathbf{4 5 0 4}$ ii $16 ; 4505$ introd., fr. 2.9, 13), Anoubion might be a first or early second century intermediary between Dorotheus and the Manethoniana, or he might be an incompetent imitator of the latter. Gundel and Gundel, Astrologoumena 155, 380 accepting the identification with ps.-Clement's Anoubion, give the astrological poet a Neronian dating (or even earlier, if A. was indeed cited by the first century bG Antiochus of Athens, as suggested by Cumont, CCAG VII $4.115 ;$ cf. D. Pingree, 'Antiochus and Rhetorius', CPh 72 (1977) 203-23); Pingree, The Yavanajātaka of Sohudjidhvaja Harvard Oriental Series 48 (1978) ii 422 (I owe the reference to Alexander Jones) rejects the identification (but offers no reasons), and opts for a second-third century ad date, 'after Dorotheus and before Firmicus'. But since Dorotheus presents horoscopes for people born in a range from 7 BC to 43 AD , Anoubion could be late first century. $\mathbf{4 5 0 3}$ and $\mathbf{4 5 0 5}$ make it unlikely that he is to be dated after the second century. For the dating of the Manethoniana see J. R. Rea on XXXI 2546 ( 80 ad on the basis of the author's own horoscope); Gundel and Gundel, Astrologoumena 160,380 ( ${ }^{3} 3^{-1} 50 \mathrm{AD}$ ).

Content: The proem of A.'s third book presents rudimentary principles for the $\dot{\omega}$ oovó $\mu$ (the term employed unusually at $\mathbf{4 5 0 3}$ front fr. 2.3 , II to denote the decans) and the 'ruling signs' (the subtitle at $\mathbf{4 5 0 5} \mathrm{fr} .2 .12$ Пєрì тô̂ $\delta є c \pi o ́ \tau o[v]$ ), their subdivisions and influencing signs, and how to predict men's characters and futures based on the risings of these signs. Most of A.'s predictions are based on the $\dot{\text { ¢ ооскóтос or sign that rises at }}$ the hour of one's birth, and thus derive from genethlialogical astrology. 4504, however, also deals explicitly with the ruling sign ( $\delta \in c \pi \delta \sigma \tau \eta c$ ) of the marriage (a digression paralleled in Firmicus). Consultation of Anoubion's poem enabled someone who knew the arrangement of signs at the hour of one's birth or marriage to arrive at a prediction of one's character or fortune. It will not have told one how to compute that arrangement: for that task consultation of a calendrical table of computations or ephemeris will have been required (see Jones, Apeiron 27 (1994) 25-5I).

Each prediction takes the form of a condition in ${ }^{\text {cad }} \boldsymbol{v} \nu+$ subj. (or equivalent) specifying the arrangement of star-signs at birth (or marriage), followed by a statement in the
present or future indicative of the individual's character or fortune. This pattern, standard in all handbooks of divination, is repeated endlessly. The result is the compilation, by or for the astrologer, of a catalogue of tried and tested data, for purposes of reference, not continuous reading. Notably, however, almost all of A.'s surviving predictions are predictions of ill-omen. Most of them paradoxically involve Venus, whose influence is ally benefic in its own richt. But in A's predictions the results are dire and unfortunate ( $\mathbf{4 5 0 3}$ back 6 ff . begins with a mixed blessing, but turns sour by its end), and reveal a predominance of concerns about eros together with marriage, family, and propertya predominance of concerns about er what appear in the prose handbooks as desirable outcomes alternating with bad. This pattern changes, however, abruptly at the end of book 3 (as given in 4505): the predictions change to good and the book ends on a positive note in a second person address (fr. 2.6) that offers a gesture of closure.

As a poet Anoubion emerges from the new fragments more rudimentary and concise in his formulation of astrological relationships than Dorotheus, and less refined than Manetho in versification and less elaborate in expression, though more innovative in metrical form. All three writers clearly worked in the same tradition, grafting the latest science of the day on to a data-base of purported past results, while striving for elegant poetic exposition.

It is unknown whether A. composed the poem of his own devising, or rather was versifying a prose $\tau \epsilon \chi \chi \eta$, in the way that Aratus had versified a prose treatise by Eudoxus, and Lucretius one by Epicurus. Perhaps A. drew on a prose source for the exposition of method and principles in the proem(s). The fact that the predictions in A.'s poem always begin with the hexameter (although they may be modified or specified in the pentameter) suggests that (apart from the proem) we have a modular collection of individually-turned astrological epigrams. The open-ended, expandable nature of A.'s collection (like the Manethoniana), and the epigrammatic form of the predictions cast in elegiac distichs raise the possibility that it may have been redacted and excerpted or augmented over time. Multiple redaction and anthologisation is exactly what we would augmented over time. Multiple redaction and andologisation is exactly what we would
expect to lead to the kind of textual disruption we find in the fragments and mss.: prose headings in $\mathbf{4 5 0 5}$ and III 464; lines which have dropped between successive hexameters or pentameters in 4503-4505, P. Schubart I5, and Manetho book 5 .

Exact audience and readership, whether practical or literary or both, remains a point for speculation. That no fewer than four (and possibly as many as eight) copies of A. survive on papyrus from Oxyrhynchus alone suggests a vogue for the practice of astrology, and a wide dissemination for the work. (The provenance of P. Schubart I5 is unknown: cf. O. Neugebauer and H. B. van Hoesen, 'Astrological Papyri and Ostraca: Bibliographical Notes', Proceedings of the American Philosophical Society 108 (1964) 58: from the 'Collection Reinhardt'). The papyrus copies also attest a fascination among the classes that could afford to cultivate astrological erudition in a literary and metrically refined form. On poetry as an Egyptian preference in literary studies, see J. R. Rea on LXIII 4352 introd.; E. L. Bowie, ANRW II 33.1 ( 1989 ) 209-5 ${ }^{8}$ at 230 ff.; on elegiacs: id. in The Greek Renaissance in the Roman Empire (BICS Suppl. 55) 204 ff .

It is likely that A.'s survival in the papyri is due to prominence at Alexandria (where his presence is attested by ps.-Clement) and editorial activity there, though it is not impossible that copies of his poem made their way to Oxyrhynchus from Theban or other temple-centres. Since Oxyrhynchus has so far not shown any connection between predictive astrology and temple activities (Jones, Apeiron 27 (1994) 46, cf. XXXI 2553 Calendar of Offerings), interest in the poem there might be assumed to be secular and/or professional. (On the other hand, we do not have precise provenances for the surviving Oxyrhynchus astrological papyri.) Verse was a common mode of presenting technical subjects for practical use (cf. Apollodorus of Athens' Chronica in iambic trimers From Aratus to Dorotheus the hexameter had long since been the medium of choice for astronomical and astrological poetry (as for oracles in general). (For didactic poems on astrology of Byzantine date, see W. Hübner, Pallas 30 (1985) 4 n. 16.) The choice of elegiac metre marks A.'s poem out as exceptional. Apart from literary and funerary epigrams, elegiacs are rare in the imperial period, especially for technical of narrative exposition. Ovid's use of elegiacs to cast Latin love poetry in didactic form, and later for his technical exposition of the Roman calendar, provides a precedent in the Latin tradition. The Kazacтєpıcû̂v ... materies scripta elegis, which Pliny the Younger Epist V I7,I heard Calpurnius Piso recite in auditorio might be contemporary with A (part of a vogue?). In Greek, elegiacs of the imperial period are more often of informal production, unambitious in scope, and are found on papyrus often written (like $\mathbf{4 5 0 3}$ and 4505) in informal scripts (cf. 4501-4502). For a didactic instance see Andromachus De theriaca ex viperis quoted in its entirety by Galen (no. 62 in Heitsch, GDRK vol. 2 pp. $8-15$ ), dedicated and addressed to Nero, with a closing invocation to Paion, complete in 87 elegiac distichs, which suggests a small compass (antecedents for elegiacs on medical prescriptions in Aglaias, SH 18, and even earlier in Philo of Tarsus, SH 690, ( A) Fr sor unual examples see ITV 3723 (ii AD) a versified list of mythological exempla on the servitium amoris, especially gods and their boy-loves. J. R. Rea has suggested that the basic subject was the love of the Emperor Hadrian for his favourite Antinoos, who drowned in the Nile and was a favoured subject with GreekEgyptian poets (see most recently LXIII 4352; cf. however R. Führer, ZPE I22 (1998) $47-8$ ). The division between elegy and epigram is not aways clear: see XXXI 2532 (iii AD) on people who get gout; P.Lond. 256 R = PLit.Lond $62=$ Page, Select Papyri III no. I 13 ( SH -8a) an Greek-Egyptian context (where its placement as an epigram on a monument at Actium is a patent literary fiction: see S. Barbantani, Aevum Antiquum II (1998) 5-104). Later examples are even rarer: some by Gregory of Nazianzus, and a fragmentary encomium, no. 3 I in Heitsch, GDRK. 'Otherwise they fall out of favour for long poems' (West, Greek Metre, p. 181).

These instances show the range of productions that could command an elegiac frm on Greek papyri from Egypt in the imperial period. A didactic poem on astrology expands the repertoire in an unexpected direction.

Poetic Form and Diction: Anoubion writes in an artificial poetic language that is an amalgam of Homeric and later epic, with a preponderance of Ionic forms and many variants which exist only for convenience in observing strict versification. Poetic equivaents of names of the planets are those familiar from Dorotheus and the Manethoniana,


 Capricornus, Libra, Taurus, Pisces so far are not attested in the fragments of A.);
 I-2, but with a different meaning in 4503 front fr. 2.3); horoscope, geniture, chart = $\theta \in \dot{\mu} \mu$. In addition there is a wide array of poetic epithets which typically accompany or sometimes substitute for a given sign, e.g. ỏdoóc, 'baneful' of Mars ( $\mathbf{4 5 0 4}$ ii 14). In the Manethoniana we find a wider repertoire of equivalent epithets for the signs; A. seems notrined and repetitious by comparison, precariously succinct, leaving much to the understanding of his reader. Firmicus' prose version is painfully prolix by comparison. The author of the Manethoniana, writing in the same idiom, is closer to Anoubion, but has a wider range of poetic and technical vocabulary at his disposal, a more variable set of alternative expressions to say the same things. With his similarities to the language of Dorotheus, A. shows a unique combination of outright dependence on his predecesors, knavish thievery of their terms and expressions, in a cookbook-style compilation, o produce something new, involving insouciant variation in formulation of positions and predictions in a science in which one might suspect that even slight variation could have dire consequences for accuracy.

Metre and Versification: Elegiac couplet. Composition is stichic, with units beginning regularly with the hexameter, and ideas frequently confined to individual verses in the distichs. Technique belies suspicion that this is a writer entirely devoid of technical competence in versification. Of post-Callimachean strictures in quantitative verse, some e observed some of the time. Wherever we can tell, practice does not differ substanbally between 4503-4507, nor between these taken together with P. Schubart 15 and the verses quoted from A. by later authors. Special treatment of the accent at the aesura or line-end is most prominent: viz. in the pentameter an attempt to fix the final accent and accent at the caesura. Such treatment stands at the beginning of the shift from quantitative to accentual verse: Maas, Greek Metre $\$ \$ 21-2 ;$ A. Dihle, Hermes 82 (1954) r82-9; West, Greek Metre pp. 159, r62, $18 \mathrm{i}-2$. Already Snell observed (ap. . Schubart I5) that more often than not A. ends his pentameters with a paroxytone ord This is so in 24 out of the 38 certain cases (in 4503-5 and including-as in what follows-the six certain instances in P. Schubart 15 , and II in fragments quoted from A. in the secondary tradition, but not counting uncertain and restored instances). When they do not end in paroxytones, they tend to be proparoxytones ( 7 out of 38 ); only 4 out of the 38 are in fact oxytones. Thus a more accurate way of describing A.'s metrical
preference would be to say that oxytone words are avoided at the end of the pentameter (cf. Maas, Greek Metre § 21; West, Greek Metre p. 159). Oxytones are similarly avoided at the caesura in the pentameter (Maas, Greek Metre § 22), though less so than at the end ( 12 out of the 42 certain instances at caesura are oxytone). A short syllable long by position before the caesura of the pentameter is generally avoided (Maas, Greek Metre § 22; Gow-Page, GP vol. I, p. xli): only 5 instances out of 46 ; the percentages given by West, Greek Metre pp. ${ }^{\prime} 58$ and 182 are instructive: A. is more strict than Asclepiades and Posidippus ( $14.4 \%$ ), more in the range of Crinagoras ( $9.7 \%$ ), Lucillius or Nicarchus (I I. $9 \%$ ), less strict than Philodemus (I. I \%). A monosyllable before the caesura is strictly avoided, as at the end (West, Greek Metre p. I58). Word end after the 'second trochee' of the pentameter is roughly avoided (only 6 out of 42 instances). The pentameter regularly has a caesura where expected.

In the hexameter A. likewise observes regular caesurae, with a slightly higher occurrence of the feminine. As in Callimachus, elision is avoided at the caesura (West, Greek Metre p. I53). Hilberg's law (no word-end after a monosyllabic i.e. uncontracted second biceps: Maas, Greek Metre $\S 9^{2}$ ) is regularly observed. Naeke's law (no word-end after a contracted fourth biceps) is perhaps once violated ( $\mathbf{4 5 0 3}$ front fr. 2.1 I if A. wrote the enclitic rot and not the prepositive ró; 4504 ii 2 is mitigated by elision; 4504 ii i7 and P. Schubart 15.34 are not relevant since prepositives there are not in violation), though it is never so violated in Callimachus. There are two spondaic fifth feet $(\mathbf{4 5 0 3}$ front fr. 2.5; back fr. 2.5). Hermann's bridge, as we would expect from any competent versifier in Greek, is always observed, except at $\mathbf{4 5 0 3}$ back fr. 2.3 (but mitigated by elision). Hexameters with masculine caesurae usually do have as expected a secondary caesura after the seventh element or the eighth (Bucolic Diaeresis), but not at $\mathbf{4 5 0 3}$ back fr. 2.9, 4504 ii 19. However, there is distinctly no Callimachean or Nonnian preference for a disyllabic i.e. uncontracted biceps in the third foot, when the secondary caesura falls before or after the biceps of the fourth foot (Maas, Greek Metre § 93), though there are examples at $\mathbf{4 5 0 3}$ front fr. 2.11, $\mathbf{4 5 0 4}$ ii 2, 12, A. ap. Hephaestion 2.2 (p. 90-1 Pingree) vv. 3, 9, 11. Giseke's rule (no word-end after the fourth element or 'second trochee') is generally observed (Maas, Greek Metre $\$ \S 94-5$ ), at least in 37 out of 40 instances: there are exceptions at $\mathbf{4 5 0 3}$ back fr. 2.1 I, $\mathbf{4 5 0 4}$ ii 2, $\mathbf{4 5 0 5}$ fr. 2.5 (but elision there). But word-end after the princeps of both the fourth and fifth feet, avoided by strict post-Callimachean versifiers, especially Nonnus (Maas, Greek Metre § 97) is oddly allowed at 4503 back fr. 2.11, 4504 ii 8, 12, 14, A. ap. Hephaestion 2.2 v. I I-all lines with masculine caesurae-though this never occurs in Nonnus. It is at least fair to say that A. exhibits a developing interest in post-Callimachean refinements, though he does not follow them consistently. Several instances of hiatus ( $\mathbf{4 5 0 3}$ front fr. 1.2, back fr. 2.5) are notable shortcomings in his aspirations as a Hellenistic versifier.

The Manethoniana are cited by the edition of Arminius Koechly, Manethoniana (Leipzig 1858), whose order of books (different from the ms.) is followed here only for convenience of reference. For advice on astrological and scientific matters we are grateful to Professor Alexander Jones.
4503. Anoubion, Elegiacs
$7.3 \times 0.8 \mathrm{~cm}$ (fr. 1 )
Third century
$9.4 \times 7.5 \mathrm{~cm}$ (fr. 2)
Plates XI XII
A fragment written on both sides, containing at least 15 lines in elegiac distichs with foot of column (fr. 2); a detached piece (fr. I) has along the fibres parts of three lines, followed by line beginnings of a second column. Thus we could have a miniature codex. Front fr. I could be a bifolium (page width 9.5 cm : Turner, Typology 22; cf. the slightly larger Homer Oracle 3831, another handbook to the future at hexameter width). On the other hand, there is no sign of a fold, and in that case because of the relation of front to back in fr. 2 it must come from the upper portion of the page or column preceding front fr. 2 (the bottom is excluded because the line beginnings preserved by fr. I col. ii do not match front fr. $2.13^{-14}$ ). Also, the introductory content of front fr. I indicates close proximity to that of front fr. 2 , suggesting that it came from the upper portion of the column containing front fr. 2. If so, we would have a (miniature) double column codex (Turner, Typology 36; see also on back fr. 2.3). The possibility of a small opisthograph roll is discouraged by the scribe's habit of shortening the extension of the hexameter lines at the right by squeezing in above the line parts of the last word or so but one (thus in effect justifying the right margin), due either to lack of space or in order to conserve it for another column of writing at the right, whereas an extended sheet would have allowed for the writing of full hexameter-length lines. However, it is not impossible that we have a single sheet, containing in several columns per side a much abridged version or excerpts of the poem (see on back fr. 2.3). Fr. I may be from a different column and codex leaf than fr. 2, though the content and the parallel sequence in the Latin version suggest it is part of the preceding discussion (see on front fr. I col. ii), and certainly that fr. I front precedes fr. 2 front.

The hand is a slovenly half-cursive, small and round (though hardly a book hand), rapidly written, with many ligatures and strong cursive tendencies, though still retaining independently formed capital shapes in most letters (e.g. $\nu, \omega$ ). In places its appearance is hasty and amateurish, increasing the chance that the text is corrupt. The scribe writes a v-shaped hypsilon (arcing out emphatically at line-end: back fr. 2.IO), and c in a similar movement, usually with connecting stroke sloping into lower half, then changing direction and coming back up from base-line to create a lunate shape, sometimes coming all the way over the top, and even falling completely forward and dipping below the base-line when the following letter is $t$, in which case the shape is easily confused with $\pi$; note same basic shape as $c$ in hull of $\epsilon$, with centre-stroke connected in a zig-zag. $\tau$ sometimes with a right-curving hook at bottom of upright, as sometimes also on tail of $\rho$, and on the foot of the right upright of $\pi$ which, with its curved top, often confusingly approximates the shape of the sigma-iota ligature (e.g. front fr. 2.10). $\mu$ with low rounded saddle and curved sides; $\eta$ with curving right side; $\kappa$ with both arms detached from the
upright, connected only with a curve at base-line. $\beta$ with broad flat bottom and open at the top (back fr. 2.2, 12). $\psi$ with 90 -degree cross-bar (back fr. 2.6). Tiny, floating omicron, often not closed at top or right. $\delta$ with sagging bottom. $\omega$ independently formed and rounded. Diminutive zig-zag $\zeta$, but swashbuckling $\xi$ (front fr. 2.2). Little decoration, no contrast between thick and thin strokes, but some hybrid-style contrast between thin or small letters $(\iota, o)$ and wider ones $(\nu, \pi) . \iota$ and vertical of $\phi$ frequently reach from bottom line of preceding line to the top-line of the line below. Initial letters slightly enlarged, and the whole leaning slightly to the right. The writing could be as early as ii AD (so E. G. Turner in an inventory note: 'looks early'), though this is discouraged by the swooping tail of alpha at the end of front fr. 2.Io. A date in the later third century cannot be ruled out, and a few features could perhaps be comfortably placed even in early iv; but in general the impression given is of the earlier period.

The hand is to be compared with XXXI 2553 Calendar of Offerings, dated to late ii or early iii, and P. Ryl. III 463 (Roberts, GLH no. 20c) Gospel of Mary, middle of iii AD (assigned); cf. also Roberts, GLH 2ob Edict of Prefect 206, and for an even earlier close parallel (especially for alpha and upsilon) see V 842 Hellenica Oxyrhynchia (Roberts, GLH n. I 7b), second half of ii (assigned). For an early non-Christian literary text in codex form compare XLIV 3157 (Plato, Resp. X) ii ad (assigned).

Front and back can be easily inferred from content: the front, written along the fibres, concerris basic principles of astrology, to which introductory sections of book two of Firmicus Maternus' Mathesis correspond. This will have come early in the book; presumably from a proem. A reader (was he named?) is addressed as a would-be practitioner of the art; his presence in the proem might have been predicted from second-person verbs in the later fragments of the poem (see on front fr. 2.6). On the back and across the fibres there is more introductory material (or perhaps a transitional passage between sections or predictions) advising the addressee on divinatory procedure, then one complete prediction and the beginning of the next, which, like those of 4504 and $\mathbf{4 5 0 5}$, find parallels in exactly the same order in book six of Firmicus. Whether or not the front was the first page of the codex itself is unknown, since the height of the column is unrecoverable. Front fr. I gives the number of the zodiacal signs (presumably it went on to give their names); fr. 2 treats the astrological decans. Assuming that fr. r is part of the same column as fr. 2 (see above, and on fr. I col. ii), it is at least possible that the book began with this page and column-especially if Anoubion's proem was as lapidary and succinct (in comparison with Firmicus' Latin rendering) as we find in the other fragments, unless of course the codex contained the first two books of Anoubion's poem in addition to the third.

If back fr. 2.3-6 is not more introductory material but a transitional passage between predictions, the parallel sections preceding in Firmicus suggest that about 21 predictions should have intervened-which perhaps could have fitted into the
minimum lacuna of a second and third column (on the front and back of the page respectively). See on back fr. 2.3. On the other hand the fact that the first preserved prediction begins (back fr. 2.7) with $\alpha \hat{v} \tau i \kappa \alpha \quad \gamma \dot{\alpha} \rho$ suggests a plan of organisation in which this prediction thus introduced began a new section, rather than separating predictions of the same or of a miscellaneous nature, as is the case in the parallel series in Firmicus.

Intercolumnium on fr. 2 is at least 1.1 cm ; on front fr. I 2.4 cm . The maximum width of the column (fr. 2) is 8.2 cm in full length hexameter lines (though the longer ones have been shortened: see below).

The scribe used few reading marks. A second hand may have placed a single grave accent in brown ink over alpha (if it is not simply a smudge) at back fr, 2.I I. There are no breathings, no tremata or quantity marks. Spaces between words are sometimes employed (as indicated in the diplomatic transcript, below: e.g. back fr. $2.6 \delta \iota \alpha \kappa \rho \epsilon \omega \omega \nu$ скє $\psi \iota v$; I I кор $\quad$ р $a \lambda$ ). Otherwise the only punctuation is a single paragraphos after back fr. 2.2. While coinciding with a full stop, this however seems also to mark a new section in the poem.

Elision is consistently effected but not marked. Apostrophes are written after an elided $\theta \epsilon($ read $\tau \epsilon)$ in front fr. 2.6 before i $\delta i o \iota c$, after an elided $\delta \epsilon$ in front fr .2 .8 a , and after an elided $-\tau \alpha$ in front fr. 2.9. Hiatus is occasionally tolerated, written in scriptio
 effected at back fr. $2.3 \zeta \omega_{\dot{\prime} \delta \iota^{\prime}}{ }^{\prime} v$. At front fr. 2.2 and 12 there is hiatus at caesura in the pentameter. In the other cases such hiatus shortens a preceding long vowel by correption
 is not written. The scribe effects assimilation of consonants where we would expect it (back fr. 2.5 á $\gamma \gamma \epsilon i \lambda \epsilon \iota a c ; 9$ cú $\beta$ ßıov). There is only one itacistic spelling: back fr. 2.6 ठıакрєivшv.

Suprascript and subscript sequences of letters appear, made internally at the time of writing in order to shorten the length of the line; there is an attempt to return to the normal level at line-end (e.g. front fr. 2.11). There are here and there uncorrected omissions of syllables necessary for the metre (front fr. 2.5; back fr. 2.3), which can sometimes be divined. The scribe wrote at least one adventitious but uncorrected double consonant (front fr. 2.8a тóccoı) which spoils the metre. In two cases pentameters have dropped (out of 30 distichs, i.e. ca. $7 \%$, cf. 4504, where one hexameter has dropped out of a dozen preserved distichs; in P. Schubart 15 one hexameter has dropped out of at least eight distichs).

Although the informal, cursive tendencies of the hand (together with uncorrected omissions and other infelicities) might be thought appropriate in a text of subliterary content, 4503 was clearly designed to be a book, and to reproduce literature. The scribe's consistent attempt to alter the shape of the column to fit his format of writing, namely by shortening the hexameter to the length of the pentameter, shows attention
to constraints of book production. 4503 certainly contained what was probably the opening and introduction of Anoubion's poem (or at least one book of it); whether it reproduced it whole, or consisted rather of an anthologised collection of astrological epigrams, remains uncertain.

Metre: elegiac distichs; the hexameter and the pentameter begin at the same point.
$\rightarrow$ (front) Fr. I, col. i
${ }^{1}$

> ]. . [. .]. [. . . .]. [
> . уоккаь $\varnothing к а \zeta \omega \delta \iota а є \iota с \iota \nu$
> ]. [.......].[....].
$\rightarrow$ (front) Fr. I, col. i
$=\quad \alpha[$
$\lambda$. $[$
$\rightarrow$ (front) Fr. 2
]. .[...].[..]. . [. ...]. .[
[ c. 4 ]. $\tau о \iota \pi \rho о \tau є \rho \circ \iota \epsilon \xi \kappa \alpha \iota[$ ]. [

$\alpha \phi \rho a \subset \tau о \iota \ldots \ldots$. . oı $\delta \in!\subset!\pi \alpha \rho$. $\chi \in \delta \circ \theta \in v$


 $\alpha \lambda \lambda \circ \iota \delta^{\prime} . \mu \phi \alpha v . . \iota \subset \tau$. соьастєрєсоעтєсєась о८ $\mu \epsilon \nu \ldots \nu \theta^{\prime} \ldots \pi \alpha \nu \tau \alpha \tau \alpha \theta \epsilon \subset \phi а \tau \alpha^{\prime} \pi \alpha \nu \tau о \tau \epsilon^{\prime} \mu \epsilon \iota \nu \eta$

 $\epsilon \nu \nu \epsilon a \lambda \epsilon \iota \tau \circ v p \gamma \circ \iota[$.$] . тo入ı \eta \nu \epsilon \lambda a \chi o \nu$ $a \lambda \lambda o \iota \delta \in c \pi$. . [. .]. . $\downarrow$ є $\epsilon \pi \alpha \tau \epsilon \lambda \lambda о \nu \tau \epsilon с о \mu о \iota \omega с$
[. .]. тoıc $\omega \nu$. [. . .] ] . . . av $\alpha \pi \epsilon \iota \rho \epsilon \subset \iota \circ$
$\downarrow$ (back) Fr. I

## ]. [ <br> ]....... [

$\downarrow$ (back) Fr. 2
ب[.]. . . . . . . . [. . . . ]. . . . . . . . . .

 тоvстє $\pi \alpha \rho о \nu \tau \alpha<о \pi \omega с о \iota \tau \iota \nu \in \subset \in \iota \subset \mu a \theta \omega \nu$
$5 \quad \eta \tau \imath \nu \alpha \epsilon \kappa \tau \in \lambda \epsilon \subset 0 \cup \iota!\pi \epsilon \rho \iota \subset \tau \alpha \iota \iota \alpha \gamma \gamma \epsilon \iota \lambda \epsilon \iota \alpha c$


$\epsilon \nu \iota \delta \iota \iota с \iota \tau о \pi о \iota с$ тоитироєעтосатє $\rho$
сvцßıovov $\pi \epsilon \nu \iota \chi \rho a \nu о v \pi \rho \epsilon \subset \beta v \tau \epsilon \rho a \nu \tau \epsilon ' \delta \iota \delta \omega^{\prime} \subset \iota$
 ovт $\alpha \nu \tau \omega \kappa \delta \epsilon \kappa о \rho \eta \nu$ a . . $\chi \eta \rho \alpha$. . $\epsilon \nu \epsilon \alpha \nu \tau \epsilon$ сvvтоь каъ $\beta \iota \tau \omega \nu \eta \delta \iota \epsilon \delta \omega \kappa \alpha$. [. . .] $\nu$ $\epsilon \delta \delta \epsilon \tau о \pi о с к а к о є р у о \nu \epsilon \nu[$.$] . . .ova. . \nu^{\prime} \mu \in \theta o \delta \epsilon v \in \iota$ $\pi$. $\nu \tau \omega c ̧ \tau o v c$ a yatovcacce[. . ]uөvтотос . . cө入ос $\mu \in \tau \alpha \gamma \epsilon \iota \nu о \iota$. [. . .]. каvєсє каı[.]. [
$\rightarrow$ Fr. I, col. i
1]..[, first trace indistinct, then upright as of $\pi$, or descender as of $\rho]$.[at end, descender,, or $\tau$ 3 last preserved trace: top of upright, high above the line, as $\phi$
$\rightarrow$ Fr. 2
$\left.\begin{array}{ll}\text { I negligible traces } & 2\end{array}\right]$, curving top and bottom, but separated by damage; possibly a mangled $c$, but ink at bottom low enough for descender of $\rho \quad 3, \rho$, before $\rho$ right side of round lettcr, $\rho, \omega$ $\mu o t$, right sidc of $\mu$, tops of $o$ and $\imath$ clearly visible end: caı written inferior $4 \kappa$, , the first letter probably $\kappa$, but $\beta$ not ruled out, then at mid-level two obliques meeting at an apex at top-line suggcsting $\alpha$,
$\lambda$, or $\epsilon$ (cf. on back fr. 2.7), followed by two traces at linc-level, the first an upright; after break foot of upright, $\lambda$, or $\epsilon$ (cf. on back fr. 2.7), followed by two traces at linc-level, the first an upright; after break foot of upright, perhaps corner of $\nu$ Dect, after $\delta \in$ a rather shorter upright man would be expected , but might be also taken for $\pi$, as the shape is very similar to the following letter $\pi a \rho \ldots$, after $\pi$, rotundity of bowl at left suggests $\alpha$ more likely than $\epsilon$ (i.e. like the $\epsilon$ in back fr. 2.12 $\delta \in \epsilon \delta \omega \kappa \alpha$ ); after $\rho$, loop at left as in bowl of $a$ barely visible, spacing rules out $\epsilon$; then a short broken line at basc-linc, plus higher ink connecting horizontally at top with left arm of following $\chi$, sigma compatible? 6. [.]., at beginning, flat base at line level, $a$ or $\delta$; after lacuna of one letter, upper right quadrant of small round letter, o or $\rho$ suggested, then wollo uprights, but seems to slope downward between the two, possibly $\nu$, but $\eta$ not ruled out (??) $\quad \tau \ldots$, cross-bar of $\tau$ at line-level,
with descendcr dipping becow, then left centre and part of centre-stroke of $e$, followed by right half of high, tiny bowl, possibly $\rho$ for $\theta^{\prime}$ read $\tau^{\prime}$ (?) 7 a $[$.$] , , ghosts of two uprights 8 \delta^{\prime}, \mu$, aftcr the apostrophe, bottom of roundcd letter with part of a horizontal centrcd above as mid-level, antcr which the
saddlc and right side of $\mu$ are clear $\quad v$, arms of $v$-shaped $v$ converging at base-line, faint ink on damage surface after $\tau$, a round blob of ink as though dangling from the right end of cross-bar of $\tau$, about the size of an omicron, but filled-in with ink in the centre: a cancclled omicron? then a small circular letter with the shape of omicron, closed at top (as the sigma is often not), but not quite closed at lower right, thus o, but c not rulcd out
 the $\tau$ following is Iigatured to $o$ with an open top 13 cT . [ , after $\mathrm{c} \pi$ traces of two letters which have left short horizontals at bottom and (seemingly) top, but wit possibly $\zeta$ or $\delta$ for the second $14] \pi$, after $\pi, \underline{a}$ or $o \underline{o}$
$\downarrow$ Fr. 2
I No shortage of traces, but nothing distinct
2 , $v a \lambda \lambda$, before $v$ top of rounded letter, plus zig zag connection of centre-stroke suggesting $\epsilon \quad 3 \in \nu$, cq, after $\epsilon v$ ghost of a round letter followed by an
upright; then $c$, which may have fallen forward into $\quad$, which is however not clearly visible); then upright and part of cross bar at top right, compatible with $\tau$ before epsilon $\quad 7$ for $\kappa v \theta \epsilon \rho \epsilon \epsilon \epsilon$ read $\kappa v \theta \epsilon \rho \epsilon \iota a \quad \kappa \rho \circ$ upright on edge, e.g. $\iota, \nu, \eta \quad 10$ see line-note 11 X $\quad{ }^{2} \rho \dot{a} y$ apparently, either grave accent by second hand in brown ink, or perhaps just accidental stain 12 a. [, see linc-note 13 ] . 'ov', after the lacuna perhaps two letters, one at line level and one shortly after but raised-up, the first possibly cor $\epsilon$, th second $\varsigma$; the following letter (also raised) before ov may well be $\tau$, with its top stroke uncharacteristicall arched $a, \nu^{\prime}$, the typical left loop of $a$ is discernible, with tail at right possibly converging into base of an
upright, then bottom(s) of a rounded letter, o or $\omega$, followed by a letter which resembles $\nu$, but with a very short left upright and a right upright slanting out to right at top somewhat more than would be expected ${ }^{1} 4$ cce $[$, likcly c connecting to another which is less rounded: c or $\pi$ ? ( $(\gamma \gamma$ ruled out), then a top of a rounded letter reaching higher, but with an apex in centre that suggests $\epsilon$ rather more than o (the latter not excluded) I5 ... hook up and down at level of top-line, as though top of rounded letter, followed by three uprights with connecting strokes obscured $\gamma \in \varphi$, , the first letter possibly cor $\gamma$, last letter could be $\nu$ or $\pi$ or $c a$ in ligature ${ }^{\circ}$. [., left hand $\operatorname{lcg}$ of $\lambda$, left loop of a clumsily written alpha, or $\left.\epsilon \quad\right] . \kappa$, before $\kappa$ a horizontal connecting at mid--lcycl, possibly with a tip of an arm above, $\epsilon$ sugge
possibly ${ }^{\text {? }}$ ? $]$. circlet high over the line (o written suprascrip?)
$\rightarrow$ (front) Fr. I, col. i
(Firm. Mat. Math. 2.x.x-2 2.4.1-6)
(1.1) zodiacus orbis, in quo duodecim signa infixa sunt, per quem quinque planetae, So etiam et Luna cursus suos dirigunt, obliqua seroper agitatione torquetur. ( 1.2 ) signa autem ipsa nantur: Aries, Taurus, etc.
$\rightarrow$ (front) Fr. I, col. ii
$\rightarrow$ Fr. 2

## 1..[.....[..]...L....1.]

## 






く
 <






(4.1) singula signa in tres partes dividuntur, singulae autem partes in singulis signis terni decani, quorum singuli ex triginta paribus denas possident partes et dominium suum ac potcstatem in X partes cxerunt, sunt autem infinitae potestatis et infinitae licenpotestatis auctoritate designent, tc. ... (4.4) quidam hunc uolentes suptilius explicare terna numina decanis singulis applicarunt, quos munifices appciliandos A, Froll et al:: applicandos $P R$, Monat) id est liturgos (sectusit ouem possint munifices inueniri, ut ternis munificibus decani singuli pracferantur. (4-5) rursus novem munifices, quos singulis signis dicunt csse constitutos, per infinitas diuidunt numinum potestatcs; ab his enim dicunt dines, frigus febresque decerni ct quicquid illud est, quod solet hec sperantibus nec scientibus cuenire; per hos uolunt monstruosos ab hominibus edi partus. (4.6) sed hanc nos partem in isto instiutionis libro nccessario prae-
Lerimus; nam et Graeci, qui screta istius conati sunt disputaionis attingerc, in primis uestigiis constitutionis istum tractatum cum quodam dissimulationis fastidio reliquerun
$\downarrow$（back）Fr．I
I l．［

## 1．．．．．．．．］

$\mu[.] \ldots$ ．．．．．$\nu,[. . ..] . . . . . . . . \rho$

 тoúc $\tau \epsilon \pi \alpha \rho o ́ v \tau a c$ ö $\pi \tau \omega c$ oìтเvéc єicı $\mu a \theta \omega ́ \nu$


 $\epsilon\langle i\rangle \nu$ iठíoucı тóтоис то̂ Пиро́єvтос äтє̣р cúpßıov ov̉ $\pi \epsilon \nu \iota \chi \rho \alpha ̀ \nu$ oủ $\pi \rho \epsilon \subset \beta v \tau \epsilon \in \rho a \nu \tau \epsilon ' \delta i \delta \omega^{\prime} c \iota$ ，


 iter constituti MC Ueneris par partem，et Mars ab his alienus fuerit cffectus，aut pauperem ist coniunctio aut proucctae aetati decernit uxorem．si uero sic tos trigon Uencrem consti utos trigonica Iuppiter radia tionc respiciat，uel si cum ipsi



monio uidua quidem uxor decer nitur，sed divitiarum affluentia copiosa．
（30．7）sin Uenus in MC．pariter cum Iove fuerit inuenta，〈ista〉 sociatio adulterio cognitam de－ ernit uxorem．si ucro his pariter nstutis Mercuriil stella ad hoc m consortium partis acces lulterio marito rehicto que sortita，ad alterius mariti rursus uptias transit，et hoc aut iuueni more capta perficiet，aut pau－ peris cuiusdam secuta concu－ hus，aut ignobilis concubitu tamilitatem prona mentis cupid ravi amoris ile $x$ ， viri consortium sortiatur．

Front fr． 1
．．．are the twelve signs．＇
Front fr． 2
．．．the hour－rcgulators－a great wonder it is to view their type of nature－are marvellous．Those are present at close quarters，they producc everything，take on many forms，influence one anothcr，as they ascend You should observe in their own and others＇boundaries three in a single sign which they call decans＜one pentameter lost＞．But as many othcr stars as therc are in inferior positions are 〈one pentamcter lost $\rangle$ ．Tn order that all divine decrees always while tending abide，thesc three officers，who are august，are in contro for one hour－regulator．For in this sign these ninc officers assume their asce ，Bat acy ascend ．．．countless ．．．

Back fr． 2
＇For indeed，one ought to consider the signs in which they occur；and see to it that you ascertain and report which sort are present or what circumstance they will bring to complction，easily providing a vicw the truth．

To begin with，Venus when she is in mid－heaven together with Saturn in her own signs，without the presence of Mars，gives a wifc who is not poor nor old－so much power docs the rising－point of the place hold facing her（i．e．Venus？）－but certainly not a maiden either，but rather（Venus gives）a wifc who is both sign of cvil influencc ．．．travels together entirely ．．．the grood ones ．．．the location，if noble，great ．．．

Front fr．1，col． 1

 But that the neuter plural takes a singular verb is only a rough expectation at bcst：neuter plural with plural
verb is common enough（e．g．one out of four cases in Homer），the force being to lay stress in that case on verb is common enough（e．g．one out of four cases in Homer），the force deng collective．More alarming for the soundness of the text is the hiatus，which elscwhere in the fragments is not normally tolcrated at this position（see introd．to 4503；for another violation，below back fr．2．5）．So perhaps $\left\langle{ }^{\prime} \nu\right\rangle \in \epsilon<c \nu(=$ Firmicus＇infixa）？

Front fr．I，col．it
${ }_{\mathrm{t}-2}$ Apparently the linc beginnings of another column rather than marginal annotation（cf．the verses writtcn in another hand at the foot of the astrological verses in PSI III 157）．Hcre the hand is the same．The alignment of the two lines and the intercolumn are consistent with the margins prcserved on fr．2．Back fr． 2 shows a trace of ink in the right margin at about the further into the margin to the left than does any ink in either of the other preserved margins．Fr．i might be from the preceding leaf or column．But since only three chapters intervene between them in the corresponding section in Firmicus，whose Latin is in every other place we can judge more expansive than Anoubion＇s Grcck，therc is some reason to think that fr．I is the upper portion of the same leaf as fr． 2

## Front fr． 2

 what follows it seems to mcan the astrological decans．Therc is therefore a clear gap between the elcmentary intervening gap Firmicus gives at 2．1．3 the signs，their genders and numbers of each（two groups of six）．Then he moves on to the decans in 2．1．4．
 Firmicus，where Anoubion says $\dot{\omega} \rho o v \delta \mu o l$ ，Firmicus translates as Decanoi．In the context，both are speaking of the uniform ro degree decans of Greck astrology，not the time－reckoning constellations of oldcr Egyptian astronomy．Yct the word ©́povóuoc，＇hour－regulator＇to designate the decans looks like a recollection of their
older function．The concept behind $\dot{\omega}$ eovóuoc is something that regulates time．This is appropriate both for the ascendant（which moves through the zodiac，or rather the zodiac moves through it，in the daily revolution
of the heavens）and for a dccan，recalling the old Egyptian use of the decans as time－reckoning constellations． Cf．line 7 wherc A．refers to sections of the zodiac such that each zodiacal sign contains three，i．e．decans． Hcre they are subjects of a programmatic discussion at the opening of Anoubion＇s poem．But it is hard to
connect this discussion with the topics of the verses on the other side of the fragment．（See further below on I3．）

There is room for a letter between wpovoнo and $\mu \epsilon \gamma$ ．Thus e．g．© ipovómou［c］could be read．But the scribe sometimes leaves spaces between words，and the nominative seems to cohcre with those that follow．

 on Philod．Epigy．18．3．One would expect it to be parenthetical：so twice in Aratus；Manetho 5.32 ápcevproìc
 marvellous thing for the hour－regulators to aspect the type of birth＇；or＇it is a marvellous thing（for you？of． sccond person address in 6）to look to the type of birth among the hour－regulators＇．But we would be lacking a connective，and in any casc the nominativc $\dot{\omega}$ роро́но in 3 is encouraged by the string of nominative cpithets which follow in 4－5．
 thcir influences，or（ii）the personal character of the individuals thus influenced．（i）is suggested by the introductory nature of the passage；（ii）however，is supported by the fact that ${ }^{\ell}$ ca $\theta \rho \rho \epsilon \omega$ normally describes（see
below）the activity of astrological entitics in fixing their locations and thus individual destinies．

就adhen，but that docs not seem to be the case here．At Manetho 4.557 the verb is employed to reative

4－5 An encomium on the marvels（ $3 \mu \hat{\epsilon} \gamma a \theta a \hat{\nu} \mu a$ ）of the hour－regulators：their qualities（ $3-5$ ）；although adpaccou（4）they are to be obscrved by the would－be astrologer（6a），since they determinc the truth of the predictions he reports（ 9 ）．They arc multiform and multivalent，influence one another（or are itinerant：see below），and rise into various configurations，prcsumably with predictablc effects when＇within their own boundaries or those of others（6a）．Their positions are given（8a）；they are subdivided into the subordinate
but potentially influential $\lambda$ elrovpyol（ 7 a， $10-\mathrm{I} 2$ ）；through them all divine fates abide（ 9 ）．Cf，the similar gencral description of the planets at Manetho 3．20－34．This is described in an asyndetic string of adjectives with elcc（4）（ 4505 fr，2．7－10 may be compared for a parallel），in the character of an incantatory litany reminiscent of the magical papyri．
 in the fragment）suit traces，sense，and metre．Thus articulate－o $8^{3}$ elcı mapa（the first and last apparently so articulated by the scribe himself），beginning a new unit of scnse．（For the clision of $\delta \epsilon$ at the caesura in the
 ，tavco $\langle\langle$ óp Oi：（not in Manetho）secms a reasonable correction）
〈 $\mu$ op〉фor（＝the Universe a duopbor：Manetho 6．31 comes in a gencral description similar to
emicrpoфot：poetic and rare，not a technical term of astrology：Od．I．I77（and 8.163 as cmended by Ar Byz．from vulg．हैтісскотог），Acsch．Agam． 397 in a lyric context，＇conversant with＇，＇having dealings with＇ either with one another，or with men＇s lives．Alternatively the sense may be＇curved＇，＇winding＇，＇wandering＇ as at A．R．2．979；Dion．Per．75，i．e．of the paths of the stars．

Avv （ $=$ orientes） ． heavens,$=$ orientes
6 a $[\theta]$ prich：
 meaning（though scc Manetho $4.557^{\prime}$ and $\varepsilon^{\prime} c^{\prime} \alpha \theta \rho \eta^{\prime}$＇cas above in 3 ），with the addressec as apprentice or potential practitioner of astrology as subject．Also unusually here Anoubion begins a new sentence with the pentameter But possibly the anomaly is due to the fact that the line comcs in the proem which sets out the principles of the system，rather than in the more modular predictions which have bcen encapsulated into individual epigrams．For the second person address see further on back fr．2．3， 5 and introd．to 4503－7．
 effects，depending on whether，at the birth of an individual they arc in their own boundaries or those

 abnormang lew ind After ópiooc presumably $\tau^{\prime}$ should be read，the clision here basc－line and the upright is not casy to see why $\theta$ should have been written（induced by reading back to ópoocr？）；cf．on 4505 fr .2 .6 For the interchange of the aspirated for voiccless dental in documentary papyri，see Gignac，Grammar i 8 cf．p．${ }^{17}$ ）．De reverse phenomenon）is more common．
 ii 13 ．
 spaces of ten dcgrees（the Zodiac divided into 36 parts），but to one or another of the stars in signs which are not their primary place（ $\tau$ óroc）．But Anoubion makes clear that we here have the 36 astrological decans，i．c． the uniform ro degree dccans，three for each of the $12 \zeta \phi \delta \dot{\sigma}$（ $f$ ront fr．I．2）．Further on the decans sce Neugebauer and Parker，Egyptian Astrological Exts inl 105－74，Bouche－Leclercq，Lastrogge grect p． 2 ． n．3，Gundcl and and dctail at 4．22，where it is apologised that Petosiris and Ncchepso treated the doctrin at an insufficient length（cf． 4,2 where it is certain Graeci who treated it too lightly），not because they did not know it，but becausc of its secrecy．The decans probably were an Egyptian contribution to the scicnce：sec above on 3；Schott in Gundel＇s Dekane und Dekanstembilder（Stud．Bibl．Warb．19，1934），I－36；Frascr，Ptolemaic Alexandria i $434^{-9}$ with notes．The decans also appear with their Egyptian namcs on the ivory tablet from Grand：S．H．Abry \＆A．Buisson，Les tablettes astrologiques de Grand（Vosgges）et l＇astrologie en Gaule yomaine，Collectio du Centre d＇Etudes romaines et Gallo－romaines NS 12 （Lyon 1993）（a reference I owe to W．Claryssc）．

7b－8b There is no immediately discernible reason why the lincs should have dropped，or why penta－ not impossibie that an additional distich has dropped，judged from the Latin，though not necessarily so and probably not more than onc in each case．

8a ă $\lambda \lambda o t \delta(f)$ ：Is the contrast between the influential $\omega$ $\rho o v o ́ \mu o t=$ decans and inferior bodics，or between one type of $\dot{\omega} \rho o v o \mu o t$ like the decans and another，the $\lambda_{\text {eitovpyor？}}$
ép 中 中ứdoc：presumably the bad places of exaltation mentioned by Firmicus al 2．4．5；cf．Manetho 2.362


Tóc $\{c\} o$ o： тóccou，though palaeographically possible，will not scan．The scribe may have been Icd astray by the scries of round shapes，producing one too many．The round letter after $\tau$ has an ink－fillcd centrc：
possibly the scribe has blottcd it out in cancellation．The first $c$ could then be read as o（though it seems not to have been closed at right），in which case we should print $\tau[0]$ ］ọco．Yet the correction is not an obvious onc（cf．back fr．2．10）．
9 ＇qui（sc．decani）fata hominum suae potestatis auctoritate designent＇．So Firmicus，where the Greck，howcver 9 ＇qui（sc．decani）fata hominum suae potstanis auctoriale desing decrees ahways while tending abide ．．．
scems to mean：＇These are in control in order that ald divine
 $13 \dot{d} \lambda \lambda\left(\alpha^{\prime}\right)$ ，cf． $8 \mathrm{a} a \lambda \lambda o t \delta(\Leftrightarrow)$ But the exact division remains uncertain，owing to the loss of 7 b and 8 b ，and the obscurity of $\mathrm{I}_{3}-\mathrm{I}_{4}$
e＂$\overbrace{0}$ in 8，executcd morc neatly but still largc，may be compared）．It is difficult to decide betwecn ${ }^{\circ}\left(T{ }^{\prime \prime}\right.$

ths with no conncctive．
 $\pi$ बдvrore：once in Philemon，but otherwise Hellenistic；often in Manetho，emphatically at II $\pi \alpha \dot{\alpha} \tau 0 \tau \epsilon \mu$


10 ＂enama decanis singulis applicarunt，quos munifices appellandos id est liturgos＇；but the Greck seems to $\epsilon \epsilon \tau o v \rho[\gamma]$ oi：：Monat，the Budé editor，attempts to excise $i d$ est liturgos as an intrusive gloss of a Greek
word for a Latin one (sce her explanation, vol. I p. 158 n. 21), but this is now secn to be misguided. Firmicus' information is here revealed to be derived from Anoubion or a common source. Firmicus footnotes his debt to this Greck source in the next section (2.4.6) nam et Graeci, qui secreta istius conati sunt disputationis attingere (cf. 4. 22 on the decans). Manetho says nothing about deirovpyol. As a subdivision of the decans, they have but subtlc influcnce over onc's fate: it is surprising to find in such an early source so recherche a doctrine.
was formerly our only source for the subdivision of the decans into three parts, although another definition was formerly our only source for the subdivision or the digns as here), shows up in Martianus Capella: see
of $\lambda$ eliovpyol as sevenths of zodiacal signs (rather than ninths Bouché-Leclercq p. 216 n. 3, 225 n. I; A.-J. Festugière, La Revelation vol, I p. I32; the deitovpyol are omitted from Gundel and Gundel, Astrologoumena.
II 'quos munifices appellandos id est liturgos ita ut per signa singula nouem possint munifices inuenin'; the Greek gives: for indeed in this sign these nine officers assume their ascent?
 is prepositive, it would not break the rule and so is more likely to have bcen written by A ., in keeping with his metrical prcferences elscwherc


虽 an individual's birth? Cf. A. ap. Hephacstion 2.2. (p. go Pingree) vv. 1-2 (sce below on 15).
 the zodiac, a different usage (see above on 3 ; for a parallel: Ncugebauer \& van Hocsen, Greek Horoscopes no. 95 line 59 ). An astrological writer, and a fortiori an astrological poet, might allow himself the licence of using the same word for two distinct astrological conccpts.

14 àmetpéçot corresponds in the Latin to per infinitas dividunt numinum potestates, here presumably of the
 is Homeric and cpic. 20.58 , Od. 11.621 (boundless), Od. 9.118, 19.174 (countless); also used twice by адтєррєсі位 (1.87).

15 ff. It is implicd by $13 \delta \in c \pi \delta \zeta \zeta[0 v] \in \varphi p$ and made clear by back fr. $2.3-6$ that A . went on here to treat theorctical matters concerning the $\delta \in \epsilon \pi \bar{\delta} \delta$ ovv $\tau \in$, 'ruling signs' before giving the catalogue of predictions based on them in $\mathbf{4 5 0 3}$ back fi. 2.7 I. Thereforc the six elegiac distichs quoted from Anoubion by Hephaestion 2.2
 These will then have been followed by $\mathbf{4 5 0 4}$, bcfore $\mathbf{4 5 0 3}$ back.

Back fr. 2
3 The paragraphos after 2 might indicate beginning of a new section. Lines 3-6 seem to contain introductory hortatory material preliminary to what follows, as though part of a proem or transitional passag. Except for the proem in $\mathbf{4 5 0 3}$ (front), these elements arc lacking elscwhere in the fragments, and are also missing from the Latin here. But it is uncertain what immcdiately preceded, whecher the Greek version of the series of predictions at Firmicus 6.28 .1 - 30.6 (like 4504, which corresponds within this section), or more introductory material continuing the front. If we are dealing with a double column codex (on the assumption that front fr. I col, $i$ is part of the same col. as front fr. 2: see introd.), then missing between front fr. 2 and its back are the 15 . lines of fron fr. I col. which fall afier the clear section and thematic beginning in Firmicus at $5.28 .1-2$, where he promiscs to tell Mavortius morc detailed examples of the kind of predictions he has been outining generally and in theory based on conjunctions and oppositions in the preceding scction. (It is true that Firmicus' introduction a $6.28 .1-2$ does not correspond to Anoubion's proem in 4503 front fr. 2; but Firmicus at 2.1-4 has already adapted that proem, or onc closcly related to it, so he cannot have reused it here.) If, however, the column
were much shorter, or if this is an outer column of a double column codex or from single column one, there will not have been sufficient space in $\mathbf{4 5 0 3}$ for the version of Anoubion used by Firmicus and attested in Greek by $\mathbf{4 5 0 4}$ and 4505 . In that case we will have to posit in $\mathbf{4 0 3}$ a difterent, possibly abridged, version of loss of brief introductory matter or a selcction of horoscopes. The paragraphos here in that case might mark off sclect individual horoscopic epigrams, making $\mathbf{4 5 0 3}$ look more like an anthology of epigrams, like 4505 (where see introd.), II 464 and PSI III 157. All hese have paragraphoi. But these will not alone be decisivc, for $\mathbf{4 5 0 4}$ docs so as well; yet it corrcsponds sufficiently closely with Firmicus for 24 lines so as to rule out the suspicion that all thesc papyri are random and differing selections of horoscopes in elegiacs.
xpỳ: The style much in keeping with Anoubion ap. Hephaestion 2.2. (p. 90 Pingrec) vy $9-10$ :

বáp тo: Denniston, GP p. 549-50, apparently here a Homeric use, e.g. Il. 5.265.
vo $\langle\epsilon\rangle \epsilon \omega:$ Something needs to be supplied to make up the mctre: (i) supply $\langle\varsigma \epsilon\rangle$ before voêv: compare the second person in 5 , as well as front fr. 2.6 ; (ii) supply $\langle\gamma \epsilon\rangle$, a universal stopgap, here in combination with Toi'; (iii) most economically, correct voeiv to vo $\langle\dot{\epsilon}\rangle \in \omega$. Manetho has only the contracted forms. (iii) has the advantage of avoiding the awkward change from $c \in$ with the infinitive to a second person construction with a finite verb in 5 .
oicc Té Tevxa[ $\nu$ : after $\zeta \dot{\omega} \delta \iota^{\prime}$ ' ev, the next letter just a smudge, followed by a faint upright, oo or $\omega \ell$, then the left side of a tiny bowl: ce, though a tight squeeze, could be read, the iota close in and ligatured to tho

 whether from тeíx $\omega$ or $\tau u \gamma \chi$ ávo, is unclear, though the difference in meaning could be minimal: 'Tor indeed onc ought to consider the signs in which they occur'. 'They' must be the planets, as shown by the following specifics, especially the 'ascendants' or $\delta$ eccrócul. They are influcntial not only at the time of onc's birth, but
 follow the success or (more often) failure in love, marriage, and family. In 4505 Iepi тồ dectótou appea in the colophon as the title of the poem (or one book of it). On the oth

 T Tva ék $\kappa$ edécouce produces an awk
monly Homeric: $O$ d. $3.99=4.32$,
Byyeineac: For the second person see introd. to 4503-4507. Is the activity of 'reporting' a convention of the didactic poetry, or a point of practical advice to an apprentice for dealing with clicnts, or again (priestly) office of the astrologer? Compare the inscription, discussed by Jones, Apeiron 27 (1994) 25-5r, on thc statue of the early Ptolemaic astrologer Harkhebi (iii BC) who was hercditary prince and count, wisc the sacred writings, who observes every thing observable in heaven and carth, who announces the rising and settings at their times, with the gods who texts iii 214-16).

tire line is Homeric, with the cyception of ccéluv, the intrusion of which (along with $4 \mu a t \omega \nu$ ) prod ces bizarre combination of enic diction with the terminology of later science. (With creesul compare ceentouevoc in Anoubion ap. Hephaestion 2.2 (p. 90 Pingree) vv. 2, ro quoted above on 3, 4). Ncither $\dot{\rho} \epsilon \hat{i} / \bar{\rho}$ éa nor $\sigma \kappa \in ́ \psi v$ nor $\dot{e} \tau \eta \tau v \mu \dot{\eta}$ arc employcd by Manetho, but he seems to ccho $\delta$ rakpivev, $\mu a \theta \omega \nu(4)$, and the present line a


ह̇т $\eta \tau v \mu(\eta$ c: also at line-end below in 4506 fr. 2.3; cf. Dorotheus fr. V 16 (p. 392 Pingrec) v. I7 $\pi \alpha i \delta \omega \nu$

docs not have the noun, for which, sec Corample' (LSJ sv. II) at Ar. Puut. 130; cf. Av. 166, 574, Plat. Protag 7e, Rest. 34od; when Homer has aùrtca it is without $\gamma$ áp: Il. I.II 18 , Od. I. 324 , etc. Here the expression scems to suggest that this is the planned beginning of a section commencing with predictions, rather than
the sclection of a prediction out of a series (such as the one in which this one appears in Firmicus) or out of a potentially large number of available predictions.

7 The Ictter after $K v \theta_{\epsilon \rho \epsilon \iota}$ is clearly $\epsilon$ (for the shape, cf. line $12 \delta i^{\prime} \epsilon$ ), with its horizontal crossbar, in comparison to the down-swooping tail of a; thus a phonetic mistake? For the sigma of cuv, see 12 cúv row. This preposition, however, never appears post-positive in Manetho or Dorotheus. Contrary to the scribe
 the far right cdge, a trace of ink level with this line, probably just accidental ink.
 exccuted; but it is not, we think, тínock. By ióoocc A. means in 'its (Venus') own' = in signo vel in finibus Ueneris. Firmicus plausibly interprets qóтook as referring to either the zodiacal signs. Libra) or the terms within any sign ruled by Venus
 9-12 Firmicus 6.30 .6 says exactly the opp

9sly erred. The 3.6 says exachy the opposite of Anoubion in 9. At least one of the astrologers has seriously erred. The discrepancy could be remedied by emending ov in both cases in the papyrus to $\eta$ (a
 in comparison with Firmicus 6.30 .23 shows that the predictions could undergo some transformation in the tradition. Perhaps Firmicus corrects his predecessors, or perhaps he or an intermediary was the source of the mistake, rather than the scribe of 4503 .

On the other hand, there are inflicities in A.'s version: $\tau \epsilon$ only with the second oi/s suggests lack of coordination, whereas the Latin neatly provides aut ... aut. The parallel prediction which follows in the Latin
shows no correlative particle(s), where the Greek has $\tau \epsilon \ldots \tau \epsilon$ (II). It is unusual to have a prediction expressed, as here, cntirely in the negative: reading ou $\ldots$ ov $\ldots \tau \in$ we are not told what kind of wife the configuration brings, only that she will not be poor or old.
Further complications cnter at line 10, which lacks a connective particle, and is something of an after-
hought, an asyndetic additional specification to the original configuration. Only after this additional specificithought, an asyndetic additional spccification to the original configuration. Only after this additional specification in ro do we find out what the wife positively will be like, and even the first half of II is expressed
 restored) until the end of 12 , suggests that the entire series of adjectivcs in $9^{-12}$ is to be taken in reference to the same prediction/wife. Note, however, that in Firmicus (who ignores the qualification in 10 ), what was a single prediction in Anoubion has become two separate predictions, each with its own positive prediction for a different type of wife. In the second, Firmicus is explicit that the widow herself will be wealthy, where as this is left to be inferred in the Greek, according to which wealth will be an additional blessing for onc born under this configuration. (Firmicus similarly takes the prediction to be for a genethliacal horoscope, i.e pertaining to the time of birth; this is nowhere specifically stated in the Greek.)
9 At thc end, $\delta_{\delta} \delta \omega$ added suprascript at the time of writing (rather than by correction or omission) in Io $\mathrm{oc} \mathrm{\eta v}$ : Suggested by Dr Coles. As read, 0 is a mere dot; if omicron, its entirc centre is closed, like the one in the second ov in 9 but even smaller. ¢ seems to be swallowed up by a folded fibre: its top is a diagonal resting on vertical ink, sloping down from top at right, its left hand bowl and lower arc withering, a damaged

avy' 'otrobc: such an articulation might be seen behind Firmicus' trigonica radiatione respiciat (cf. Manetho 4. 336 div dúmua; àvtcuróc would be unmetrical). But if so, Firmicus has supplied the planet (Jupiter) in such a position, missing in the Greek. We might have expected an epithet for Jupiter, but none in -Toc or - - ${ }^{\circ} \mathrm{oc}$
suggest themselves, and cven this would not have specificd the configuration given by Firmicus. Reading $d v$
 be an omicron cancelled with a diagonal stroke. After $v$, there is a horizontal ink at the level of the top-linc, connecting to a rounded top following. The letter before oc is either $\pi$ or the scribe's easily confused a ligaturc (cf. front fr. 2.4 ele! for the shape). Could Nócectoc be considered?

II où $\pi \dot{\alpha} \nu \tau \omega c$ c $\delta \dot{e}$ róp $p \eta$ : 'but certainly not a maiden either', i.e. a mixed blessing, first qualifying, then giving the positive complement, to the negative formulation in 1o: 'but rather one both widowed and young
4503. ANOUBION, ELEGIACS
$\dot{\alpha} \lambda \lambda^{\prime}{ }^{\eta}$ : There is some reason to expect $\bar{z} \lambda \lambda \alpha_{a}$ and the last letter is compatible with $\alpha$. But a long syllable will be required. $\hat{\eta}$ is morc guesswork than read (this combination not parallclied in Manctho). But the only other aternat
of the Latin.
$\chi \eta$ 向ay: Unless it is accidental (or merely dirt), there seems to be a sloping diagonal line, in brown ink over the alpha, by a second hand. A grave accent, i.e. גๆpap? If so, it is the only one in the text, but perhap not placed in error: a 'warning accent', that is, warning against placement of an acute on the syllable so accented (here the ultima), apparcntly deemed especially advisable in a class of words which, like this adjcctive, are normally oxytone. Sce J. Moore-Blunt, Problcms of Accentuation in Greek Papyri, greci in ctà romana e bizantina', Aeggpptus 59 (1979) I45-67 with further literature.
$\nu$ eav: Though no virgin, a young widow would have experience and moncy (cf. 12), and still have years Ieft on her, perhaps regarded, like Pctronius' Widow of Ephesus (Satyricon 1II-12), as sexually insatiate as well. Wc seem to get a reflection of the real world via the worid of novelistic storytciling. That a widow might be past childbearing is a concern cxpresscd at Dorotheus 2.4 .15 (p. 46,202 Pingrec).
I2 At line-end we are told what these planets/positions give in addition to basic 及ioroc. Manetho frequently forccasts both $\beta$ iotoc and $\beta$ iorth, a positivc i.e. desirable prediction. Here the additional element

 27 (1952) 214 ('hardly possiblc in this kind of poetry'). But as he notes correctly thcre, the asseveration is omitted in the Latin, as here. Such asseverations arc probably a feature of the didactic poct as inspircd imparter of divinc knowlcdge. They are distinctly a feature of the style of A.'s Lehrredichth, as distincl from the prose handbooks or Dorotheus and Manetho who never use them. The occurrencc of 1 lends support to the Anoubian provenance of III $\mathbf{4 6 4}$ as well as that of P . Schubart 15

$I_{3}$ Note that $\mu \epsilon \theta_{0} \delta \in \dot{\prime} \epsilon$ is written slighty below the line of writing, suggesting that the suprascript addition that precedes is calculated in advance to shorten the extension of the line to the right, thus in effecl to justrify or proserve the right margin. Cf. above line 9 cnd, front fr. $2.3,9,1 \mathbf{1 r}$. This in itself cloes not tell that anothe column followed, since we cannot be certain that sufficient papyrus followed, and it might well suggest that it did not (see introd.).
 into $\epsilon$ ?) should be tried. After the break, $\epsilon] \hat{\theta} \dot{v}$ ?
D. OBBINK
4504. Anoubion, Elegiacs

66 6B.4/P(I-2)(a)
$17.4 \times 14.3 \mathrm{~cm}$
Third or fourth century
A fair portion of one column of writing from a book-roll, with upper margin and vestiges of the preceding and following column, the latter marked half way down in the margin by an asteriskos, containing elegiac couplets with astrological predictions simila in style and content to those in 4503 and 4505-4507, and P. Schubart 15 . These are paralleled in language and order by Firmicus 6.29-31, which points to Anoubion as author.

Of col. i only a few line-ends survive. The first half of col. ii is seriously perforated, but restoration secured in most places by the parallel Latin text. Of col. iii we have only the few letters beginning some ten lines, and a marginal asteriskos. The text is
written along the fibres. The back is blank. The hand is a small, slightly flattened, rounded formal mixed (akin to but not precisely severe) style hand, lightly decorated, rounded formal mixed (akin to but not precisely severet style hester Beatty, early iv AD, no. 2 b in Cavallo-Maehler GBEBP (London 1987) and P. Berol. 9766 , iii AD, no. 33 in Seider, Palöographie II.2, but approaching the small formal Biblical maiuscule (cf. B.M. Pap. 743 (A. R.) of iv or v AD (assigned), no. 29 in Turner, $G M A W^{2}$ ) in being more rounded and e.g. by the addition of finials on verticals. When verticals and obliques meet at an apex they combine imperfectly in a flat top to produce the impression of a serif (horizontal or sometimes slightly tilting down at left), e.g. on tops of $a, \delta, \mu$, and $\nu$ (also serifs on tops of vertical and upper arm of $\kappa$, left vertical of $\eta$, left-end of top $\nu$ stroke of $\tau$ ). The hand is upright, with a slight inclination to the right, reflecting influence or later development of the severe style with hybrid characteristics. Shading is contrastive, but the effect minimised by the small size of the letters. Narrow tall letters ( $t, \rho$ with its tiny bowl) contrast with wide ones ( $\eta, \mu$ ), and both with small narrow letters $(o, \omega)$, while $\phi$ and $v$ are both wide and tall. $\mu$ is written in three strokes, with a low flat curving belly, sloping low into the right upright, so as to resemble the shape of $\nu$. Alpha is angular; both and $\omega$ small, tight and floating between top and bottom lines ( $c, \epsilon, \theta$ somewhat larger, but still diminutive in proportion to the other letters). Diamondshaped $\phi(10,12) ; \zeta$ and $\xi(16)$ written extremely wide. Strict bilinearity violated by, , $\rho, \phi$, but most ostentatiously by $v$, which also occupies additional width by virtue of hooks off the tops of both arms, especially the left. $\zeta, \kappa, \mu, v$, and $\xi$ are written contrastively wider than other letters.

Elision is effected and in at least one case (ii 14) marked by apostrophe, though in at least two other cases (ii 6,9 ) it is not so marked. There is orthographic division of double consonants $\left(\tau^{\prime} \tau\right)$ by apostrophe at ii 4 . Iota adscript is not as a rule written,
 where the iota in $\zeta \omega \iota$ can be understood vocalically as $\zeta \omega i \delta[[] \omega$ as first written, though it is not so marked and with the suprascript correction metre will require taking $\zeta \omega t$ as monosyllabic). Consonants are not assimilated internally ( 9 c covrap $[\hat{\epsilon}] \eta$ ). There are itacistic spellings: 14 Пupoic, though in 9 the scribe wrote Пupóéc; 19 уєivovтa!. There are at least two notable metrical deficiencies: a defective pentameter ( x 8 ) with a missing syllable, but otherwise sound and potentially remediable; after 15 one hexameter (at least) has dropped, the content of which can be supplied from the Latin.

Top margin is wide $(6.4 \mathrm{~cm})$ and intercolumn is ample ( $\min .2 .9 \mathrm{~cm}$ ). The evenly cut edge along the right half of the top is presumably the original top edge of the roll. This was a nicely produced book-roll, with corrections and reading marks, a format of production that would hardly suggest a private copy or subliterary content. There is no punctuation, but the text exhibits interlinear corrections and variants by the same hand which offer in both cases better readings than the text as first written. There are hand which offer in both cases better readiongs is notunctuation (or accents, or other reading no obvious spaces between words. There is no punctuation (or accents, or other reading
markss, but the same hand has provided paragraphoi which precisely articulate sections of the text, divisions which are reflected in the text of the Latin descendant. The same
hand or pen produced the asteriskos in the intercolumn before col. 3. All this suggests a professionally produced and edited book containing a controlled and stabilised text of a known author.

Other than the author and handwriting, there are no indications of date. Parallel from handwriting suggest the later third century, but the first half of the fourth cannot be ruled out, of which the later form of hypsilon is in particular a harbinger. The original height of the column is unknown. If the book preserved in $\mathbf{4 5 0 4}$ ended at the same point as Anoubion's third book preserved in $\mathbf{4 5 0 5}$ (fr. 2.I I. $\Gamma$ ), and both texts were roughly the same, then c. 20 predictions must be fitted in between the end of col. ii and the end of the book, based on the corresponding remaining predictions in Firmicus 6.30.3-26, at which point there is an obvious section break before 6.31.1. Allowing a minimum of 3 lines on average per prediction (and allowing for elaboration in the Latin proportionate to the passages where we have the Greek as a control), c. 60 lines will be missing after col. ii before the end of the book, of which we have c. 20 in col. iii (either preserved as beginnings or indicated by space), i5 in $\mathbf{4 5 0 3}$ back and at least another 16 in $\mathbf{4 5 0 5}$ before end of book (apparently no overlaps with col. iii), leaving at least 9 to be apportioned between cols. ii and iii or to have followed in a further column now lost.

Consequently there is no certain way of estimating the length of the roll. On this reckoning and counting backwards, twenty-two predictions preceding col. ii would bring us to a point at which there is a major section break with exhortation at Firmicus 6.28.1, discussed above as a possible book-beginning and location for the introductory matter in 4503 (see on back fr. 2.3). Allowing again at least 3 lines on the average per prediction, we might be within c. 65 lines of the beginning of the catalogue of predictions, after a proem of, say 25 lines, i.e. c. $80-90$ lines from the beginning of the book. This would give a total of c. 180 lines for book 3 , which would occupy six columns if the columns contained 30 lines each (a common enough format, but no particular reason to prefer it). Even these calculations can only be in the largest sense approximate, and of course the roll may have been much longer, containing for example books one and two of Anoubion as well as book 3, or some other more eclectic disposition of the elegiac horoscopes into a kind of anthology.

Metre: elegiac distichs; the hexameter not in ekthesis. As in the Berlin fragment (noted by Snell ap. P. Schubart 15), most of the pentameters where we can tell end in paroxytones (see 16 and possibly 3 for proparoxytones as permissible exceptions).
$\rightarrow$
Col. i
$\stackrel{I}{ } \quad] \omega$

## ...[.]c $\theta \epsilon$. [.]vтоддакєкацлатєєрос




 $\eta \nu \delta$. $\eta<\tau \iota \lambda \beta \omega \nu . .[].$. . $\tau \circ v$ єтотоь

 $\chi \in \iota \rho \circ \nu \delta \eta \nu \in \rho \mu \in \iota \cup \cup \nu \pi \alpha \rho[.] \eta \pi v \rho \circ \in \iota$
. $\kappa \rho[$. . ] . . $\epsilon \eta$. . $\phi \omega \subset \phi$. $\rho о с \epsilon \iota \nu \epsilon \nu \iota \zeta \omega \omega$
$\tau \omega \delta$. . [. .] . $\tau \cup \chi \eta \zeta \omega \delta$ [.]. окрогос
каıт $\rho \omega$. [.] . . $v \tau \tau \iota c v \nu a \phi \eta \nu \tau \epsilon v \chi \eta \kappa v \theta \epsilon \rho \epsilon \iota a$
каıкрорєкшו乡[.] $\omega \zeta є v с \tau v \chi \eta \eta \tau \epsilon к ข \pi \rho \iota с$

${ }^{15}$ a
15 a
15 b

$\eta \nu \delta \epsilon \gamma \nu \nu \eta \kappa \alpha \tau \alpha \tau о \nu \tau о \underset{\sim}{\boldsymbol{\tau}} \boldsymbol{\chi} \eta \tau \circ \subset \chi \eta \mu \alpha \gamma \epsilon \nu \epsilon \subset \theta \alpha$
$\qquad$ ооса⿱ $\delta \rho . \lambda \epsilon \xi \epsilon \tau \alpha \iota \eta \pi \alpha \tau \epsilon \rho \circ \subset$
$\gamma \epsilon \iota \nu \circ \nu \tau \alpha \iota \subset \tau \epsilon \iota \rho a \iota \tau \epsilon \kappa \alpha \iota a<\pi \epsilon \rho \mu \circ \iota \pi a \lambda \iota \nu \alpha \nu \delta \rho \epsilon \subset$
$\mu о \iota \rho \alpha \nu о \tau \alpha \nu \mu \eta, \eta \tau \eta \eta \nu \delta \epsilon \tau v \chi \eta \kappa \alpha \tau \epsilon \chi \epsilon!\nu$


$\eta \delta \nu \tau \iota к \omega \iota \tau \tau \epsilon і \chi \omega с \iota к р о \nu о с к v \theta \epsilon \rho \epsilon \iota а т а т о \iota к о$.
[. . ]. . $\epsilon \rho \circ v[] є v с. є \eta \pi \rho \circ[.] . ~ є \rho \rho о \nu \kappa v[.] \epsilon \rho \eta[$

Col. iii



Col. ii
[, at beginning a vertical with connecting cross-bar at top, $\pi$ possible, then vagucly a triangular
 letter aftcr initial $\delta$ is only flecks $]. \mu o v$, bcfore $\mu$ ov, two obliques mccting at an apex: $\alpha, \lambda$ possible, but $\delta$
 race at mid-height in the right side of letter space, which is narrow, e.g. o, but too narrow for $\omega$ Possible
 $\lambda \quad 5 \quad \theta_{2}$, after $\theta_{2}$ lower left corncr of $\alpha$ at baseline .]. $\iota c v$, before $\iota c v$ lower arm of $\chi$ or $\kappa$ coming in
at lower left; after $\iota c v\rangle$ long horizontal, $\pi$ or $\tau$ followed by high ink at top in middlc of the letter spacc, possibly at lower left, after $\iota \epsilon \nu$ long horizontal, $\pi$ or $\tau$ followed by high ink at top in middlc of the letter spacc, possibly
from a round letter
cti, before $\epsilon i$ possibly $c$ with bottom half fillcd wih ink or dirt, but $\theta$ not excludc $6 \delta$, round letter follows $\delta$, i.e. $\epsilon$ or $\omega$ after $\beta \omega \varphi$ complete disruption of fibrcs, traces mere specks no longer in original oricntation ... oov, before тov three uprights; after тov, apcx of $a, \lambda, \delta$
$\kappa \varepsilon \mu \epsilon$ an upright, close in to epsilon; then space for two letters beforc a stumpy upright connccted at bottom to trace at left and tiny arc out and upwards at right, $\omega$ suggested, then a small, tight round leter, e closest, o not excluded after $\phi \eta$ the fibre structure has disintegrated, with only an indistinct trace herc and there; there is possibly a side of the triangular-shaped $\phi$, lying on its sidc, out of place bcfore $\dot{\alpha} \tau \rho \in \epsilon \in \dot{\epsilon} \omega c$, an then horizontal ink at baseline, compatible with c, not extending as far as would the bottom of $\delta$; after that fibrcs disintcgrate and there are odd traces of perhaps two letters out of place, nothing in particular suggcsted 9 pov $\delta \eta \nu$, after pov $\delta$ an upright compatible with $\pi$ or $\eta$; the following $y$ and the rest of the line are out o alignment with what precedes io $\mathrm{k} \mathrm{\rho}[$, at beginning of line, fcet of uprights of two letters; then top of scrifed upright with foot and lower leg of $\kappa$ splayed below, followed by tall oblique stroke compatible with $\rho$ but missing the bowl $\epsilon \ell \eta$., after $\epsilon \eta$, tip of an upright; next letter shows the end of a leg arcing out at 1 . . becinning shows aint $\tau$, mall whering bctween the lines, and $\delta$, then an oblique slanting
down from top left to botlom right，as though an arm of $\chi$ or $\alpha$ ；then traces of two fect $\quad{ }_{\text {d }} \tau$ ，before $\tau u \chi \eta$ ， foot of an upright，followed by two distinct uprights，the last incompatible with $a$ ？$\tau v \times \eta$ ，before $\chi \dot{\eta}$ a
contred upright topped by horizontal extending at right，arguably $\tau$ ，then a wide space with a descender dipping at bottom，with just a hint of the left branch of $v \quad, \nu$ ，directly above the two letters before $\kappa \rho$ ， between the lincs there is $\nu$ ，and before that the left side of a letter with hook back left at bottom，and which between the lincs there is $\nu$ ，and before dhat the ct side so a tetter with hook back eft at bottom，and which
looks morc vertical than rounded，but damaged at top：so both $o$ and $\omega$ possible？ $12 \pi \rho,[$.$] ．，after$ $\pi \rho \omega$ an upright at centre，$\tau, \zeta$ ；after the gap an upright as in right side of $\nu$ ，but $\varphi$ not excluded；the letter beforc ov almost entircly swallowed up in the gap ovT，after ov，foot of centred descender，with tip of right cross－bar，$\tau$ suggested $\kappa v \theta_{\mathrm{E}}$ ，at end beforc $\rho \in \kappa a$, the papyrus is out of alignment，giving the imprcssion of two Icticr spaces between $\kappa v \theta$ and $\rho \epsilon \epsilon a:$ the first trace shows the lower left quadrant of a round letter， 0 or $\epsilon$
 left arc of e．g．$c, 0, \epsilon$ $\qquad$
$\qquad$ ，at beginning，slanting side uprights，$\eta$ or $\pi$ ？，followed by pointed descender，centred，as from $\tau$ ；then bottom of bowl，oor $\xi$ ；then deep
pointed descender，with tight bowl off to right at top，$\rho$ most likely ${ }_{\text {av }} \delta \rho$ ，after av $\delta$ a deep pointed descondcr，as from $\rho$ ，followed by a trace of ink at line level，e．g．ior bottom of bowl of o or $c$ ；there is not
 of place at an odd angle，but on it ink at centre as in cross－bar of $\tau$ ，followed by a spcck at base－line，then a serifed top of $t$ ，after which curved top of $\epsilon$ or $\xi$ ；afterward a vertical with a slight curve left at bottom and part of horizontal originally on top，$\pi$ or $\tau \quad 22 \epsilon \varepsilon \delta[.] \delta o$ ．［，aftcr $\epsilon \delta \delta[$.$] horizontal at basclinc， \delta$ almost arm of $\kappa$ Gov［ ］，mid－scction of upright（or right side of o）framed by two very short parallel horizontals， perhaps top and bottom of $c$

Col．i
${ }_{2} \quad[$
2
［
Col．ii
$\qquad$









（Firm．Mat．Math． $6.29 .23-30.3$ ）
nam si Saturnus nuptialis signi dominus fuerit inuentus， aut a patre aut 〈a〉 patruo aut a uitrico stuprum uirgini praeparatur，aut a senc aut a
seruo．si uero nuptialis signi dominus Mars fuerit cffcctus， et sic et ipse fuerit sicut di－ ximus positus，cum quadam uiolentia flos uirginitatis erip－ itur．（24）si ucro Uenus nup－ tialis signi domina fuerit
effecta，ct sit ctiam ipsa sic ut diximus posita，in nocturnis sacrorum uigiliis spontaneum stupri crimen admittitur．si uero Mercurius nuptialis signi dominus fuerit＜＞ ante collocatus，promis－ sionum captae persua－
sionibus uirginitatem suam desiderio corruptoris addi－ cunt．sed ex occasione et crimina concitantur，et tu－ multus seditiosae uocis in－ fertur．At fiunt maiora periculorum discrimina，si cum Mercurio Mars fuerit





r5a

${ }_{15}{ }^{\text {b }}$ く

## 


 үєivovтa！стєîpaí $\tau \in \kappa \alpha i$ äc $\pi \epsilon \rho \mu о \iota \pi a ́ \lambda \epsilon \nu$ ä $\nu \delta \rho \in \epsilon$



 ［．．．］．．$\epsilon \rho \circ v[. ~.] \epsilon v<є \eta \pi \rho \circ[..] \ldots \epsilon \rho \circ v K v[\theta] \epsilon ́ \rho \eta[$

XXX．（r）si in Saturni signo luppiter ct Uenus simul positi easdem possederint partes，et Saturnus in uicino sit signo，id est in secundo fucrit inuentus， ut ipse primus coniunctionem Ucheris ucnientis＜cx＞cipiat，
ct Mars Lunam respiciens qua－ cumque Ueneri radiatione iun gatur，Saturnus etiam Lunam pariter aspiciat，ct Sol sit in MC．，Luna et horoscopo in Cancro constitutis，incesto fur－ oris ardore et potestatis alicuius praesidio subleuats matrum
suarum conubia sortiuntur，aut bouercas suas praepostero mentis ardore；cupiditatc pos－ sessi ad consortium tori genialis inuitant．si uero mulicris fuerit ista genitura，marrimonii gratia haec cadem mulicr aut patri Ocdipodem habuisse genitu－ ram antiquae ferunt memoriae lectionum．fuit enim horos－ copus in Cancro，Sol in Ariete， Saturnus in Piscibus，Iuppiter et Uenus in Aquario，Mars in Mercurius cum Solc （2）si in finibus
Luna fucrit inuenta，ct mascul－ ini generis sidus accepcrit， praeserim si in Aquario fueri nuenta，ncc Uenus Ioui tri－ gonica radiatione iungatur，qui sic has stellas habuerint （3）si in aequinoctialibus〈signis〉 Luna in horoscopo fuerit inuenta，id est in Ariete uel Libra，Iuppiter uero ct Mars partili societate coniuncti in MG．，uel in occasu fucrit collo－ Capricorno uel Aquario pariter consitiuti et cundem partium numerum possidentes Martem ct Iouem qualibet radiation respiciant，facient steriles effeminatos et abscissos allos，religionum caerimoni scrvientes．

Col. ii
at the hands of her uncle and her father. If you find Mars the ruler of the marriage sign positioned where I said before, this (is obtained?) by force at the hands of a low-life or a vilc slave or a pauper. But if Venus (vizz is the ruler of the marriage sign) shc will lose it (sc. flos virginitatis) during Bacchic routs and nigh
cclebrations. If Mercury is positioned in that place, (it happens?) as I said, unfailingly. But he (i.e. Mercury? or it, i.e. this configuration?) incites trials and great tumult and lawsuits. It is worse if Mars is found together with Mercury.'
'If Jupiter is present (i.e. in the marriage sign?), and Vcnus is too, in the same sign, and Saturn is
. (coming?) very closc to this sign (sc. Venus), and Venus effects a conjunction with him (sc. Saturn) first; and (if, when the husband is born?) Jupiter is in the sign of Saturn, and Venus is too, and deadly Mars is in aspect
to both Venus and the Moon, and Saturn off by himself is in aspect to the Moon <one line missing, ending 'cither with his own mother') or with his step-mother he will have intercourse most horribly. But if it is a woman who is born with this birth-chart, she will (be called the wife of? go to bed with?) either her stepfather or father. Women are born who are barren, and again men who are without issuc, if the Moon embraces the following configuration: whence the great Sun comes (or: came?) travelling the equinox . under the earth, or should Saturn and Venus go forth as sctilers (i.e. dwell together) in a scting sign (or: in $N \mathcal{N}$ as it is setting)

Col. i


 xopồ actpev. This line will have been a hexameter in any case on account of its length; so also I above leaving 2 (nothing visible) a pentameter.

Col. ii
I-9 deal withi defloration of virgins according to the marriage (not birth) sign: this is specifically stated by Firmicus at 6.29 .23 si Saturnus nuptialis signi dominus fuerit inuentus. The Grcck correspondingly gives

 predictions that precede 6.30 .23 . The genethliacal predictions leave off exactly where $\mathbf{4 5 0 4}$ begins. Thus lines 10-20 begin a new scction (represented by a chapter division at Firmicus 6.30 and accompanied by paragraphos in the papyrus). Here we get a more general prediction illustrating the ill-effects of Venus unde the sign of birth, especially its effects for the marriage. This theme (and its corresponding section in Firmicus) is continued in $\mathbf{4 5 0 3}$ (back) and 4505. In addition to the parallel text in Firmicus (6.29.17-23 (end) and 6.30.1-26.
Tetr. 4.5 .
 refercnce to the stcp-fathcr ( $=a$ vilrico in Firmicus): the lcter at beginning of line suggests $\pi$. But the space seems insufficient for $\pi a \tau p v i o v$, and a connective will be necded beforc $\theta \in[[0]$.
$\theta \in[[0]$ : the $r$ is a mere vestige; but $v$ shows its characteristic splayed arms: $o$ will be floating between the lines jusi before, but generously spaced, like the omicron-hypsilon in 17 rỗтo.

What the paragraphos after line 1 signals is unclear. It cannot mark beginning of the section giving predictions from the marriage sign, since line I gives the apodosis of what in the Latin is the first of a bricf 4504 (afier 0 18) the paragraphos docs not mark mere punctuation, but rather significant section beginning
 is left oddly without a connective particle (cf. 5,6 ). But there seems to be no way to accommodate onc; the zcta seems all but certain, and in any case $\begin{gathered} \\ \text { c }\end{gathered}$

At the end, varia lectio єűpouc for $\epsilon \dot{v} \rho \dot{\omega} \nu$ (ooc written sscr.), apparently the preferablc reading (but - $\omega v$ not cancelled; therefore a variant?). With the aorist participle eíp $\dot{\omega}$ ve must presume (and understand) a
position ruling the marriagc sign ...., ev. $\rho$ ouc also coheres well with the other sccond person addresses in the
 Hephacstion 2.2. (p. 90 Pingrec) v. I $\mu$ í $\theta o t c$. The second person addresses presume or affect a practical context for a potential practitioner.
$\eta{ }^{\eta} v:=\bar{\epsilon} \dot{\varepsilon}, \nu$ as often in Dorotheus and Manetho, more commonly with the subjunctive than with the optative (a late feature: Radermacher NTGrammatik p. 200), as here, but with the optative it is frequent enough in the Greek astrological poets (twenty times in Manetho).
 ant or the MC' (as given by lirmicus at the beginning of 6.23). This longer form of the antcrior reference but are nonetheless found in the prose-handbooks: Hephaestion p. 83.8 Pingree ic $\pi p o e i t \pi o v$. The form


3 rov̀тo: i.e. her virginity? or loss of it, corruption, or perhaps seduction ('stuprum' in Firmicus)? I havd no idea what Greek word is implied as anteccdent, nor if it was actually expressed in what came beforc line I.

Bíq: Manetho 5.249 ésanivivc àmódecce Bin; cf. 3.178, 193. Notc that whercas Firmicus (6.29.23) agrecs that Mars foretells rape (as opposed to seduction, stuprum), he docs not specify by whom. Instead, he secms to have moved Anoubion's doodoc (togethcr with a senex, not in the Greek) a case of carelessncss in the Latin translation, or a refinement of the prediction by later astrologers? Note that Firmicus' text could be brought into general agreement with thc Greek by ending the sentence at praeparatur, thus beginning a new sentence with aut a sene aut a serruo, and dcleting uero after si in what immediatcly follows, so that si nuptialis sighi dominus Mars fuerit follows on without a break.

At line-end there are few possibilities to accommodate $\pi a$. etac; the syllable in question must be short. We might have expected the future (judged from $5,16,18$ and P. Schubart 15.36 ; but here 8, 9 give predictions in the present, as do $\mathbf{4 5 0 3}$ back fr. 2.9, 12 and P. Schubart 15.33). nécerac, motuan ( is ruled out if the first syllable is long (so LSJ), but that depends on two emended passages (A. Eum. 177; Call. H. 6.127). If it were short at least for later authors, Lucian Podagra 264 would be a close parallel, but there too the reading is an emendation (from various forms of $\pi a \theta-$ ). Othcr possibilities require internal correption, which is rare (Wcst, Greek Metre p. II f.): naúecau (if tooto generalizes), 'her virginity is brought to
 uscd e.g. of sexual intercourse at Ar. Pax 874. But this word is rather exclusively poctic, and the passivc rare, being largely supplied from $\pi \lambda \dot{\eta}$ cco. In any case the spacc scems too wide for $\iota$.

4 ท̈rтovoc: apparently of a (social) infcrior (rather than someone younger in age): Manetho 4.385 ク̈ccovec $\eta{ }_{\eta}^{\eta} \delta$ oux $[0 v]=$ outt a seruo (in the prcceding prediction) in Firmicus ( 6.29 .23 ). But aut a sene there has no equivalent here.
 4r6, 428 .
5 'But if Venus (viz. is the ruter of the marriage sign)'. The fact that the verb of the protasis is hcre understood, makes this prediction a spccies of the forcroing one, and accouts for the fact that a new prediction here begins with the pentameter.
 would seem to allow a range of possibilities.
Olacootc: cf. Manetho 4 -30I, 493; Manil. 5 .I44 ff. Fcar of women's mysteries was widespread and stereotypically dramatic: Cumont, L'Égyple 95 with n. i. Since Anoubion (Firmicus' source herc) dates from at least the second century, the critical view of the mysteries adopted herc provides no grounds (as is sometimcs alleged) for connecting the Firmicus Maternus of the Mathesis with the one who wrote De errore profane religionum, in part a Christian attack on the pagan mysterics.
 the top of sigma taken so far forward that it has closed the circle, filling the bottom with ink, and giving the impression that we have $-\theta \epsilon$.

6 Missing in the middle of the line after Criגß $\omega \boldsymbol{y}$ is a long syllable (or two shorts), then a long syllable
 cxiguous to confirm.
 gone missing betw en fuert and ante collocatus (a lacuna indicated here by Kroll and scycral mss.), probably
 mends only three (narrow) letters in the lacuna before $\phi \eta$. W. Clarysse ingeniously suggests $\dot{\omega} \mathrm{c}[\nu \dot{v} \mu] \phi \eta$, as the expressed subject of a passive verb of seduction or persuasion later in the line, corresponding to Firmicus' cannot be certain that everything in the Latin was originally in $A$.

Aftor $\phi \eta$ [ there is a loose piece with the left side of the (distinctively triangular) bowl of phi lying at an anglc. I do not know its original position, but if it belongs here (and this is uncertain), then a verb beginning with phi is demanded. Before a a $\tau^{\prime} \rho^{\prime} \epsilon^{\prime} \kappa \epsilon^{\prime} \epsilon^{\prime} \omega$ ct there is a trace of an upright with something from the left connecting



 pcrsuasion, but with truthfulness: it is an Ionic poctic cquivalent of Attic prosc $\alpha$ ak $\rho \beta$ Bec, also in scientific prose,



 better for space: $[\tau \rho \dot{\alpha} \tau \tau] \in \tau[a]$. (vel sim.) $\dot{\alpha} \tau \tau \rho \epsilon \kappa \epsilon \omega \omega$, i.e. 'things happen exactly as I said truthfully before, except
that it brings with it trials. result with added publicity). In favour of (ii) is the fact that the only occurrences of $\dot{\alpha} \tau \rho \in \kappa \epsilon \in \omega c$ in Manetho

 Latin: there is no element there corrcsponding to àrpeкéac.

8 à $\lambda \lambda \lambda \dot{\alpha}:$ replicated by sed in Firmicus (6.29.24), who adds ex occasione 'sometimes', thereby making clear that this is to be understood as a possible (even more) negative outcome in addition, i.e. under this sign one can expect bad consequences in general. But it seems to have nothing to do per se with predictions about marriage. Has it slippcd into the particular con
some other source or scheme of organisation?

 9 'But things are worse if Mars is found together with Mercury': a general prediction (scc on 8 ), to cover a variation in position over that given in $6-7 \cdot \chi \in \hat{\rho} \rho \rho \nu=$ Firmicus' maiora. There is a closc parallel in 4505 fr. 1.6:
 Firmicus relates this directly to the preceding prediction as an additional specification of the position under considcration (6.30.20 sed haec fortius convalescent si ....' 'these predictions increase in probability, if ...'). For the significance of the paragraphos after this line see below on 12.
cuvrap $[\epsilon]\}$ : regularly of planets occupying the same position: Vett. Val. 2.4 p. 59.12 Pingrec; cf, Manctho


II Firmicus $(6.30 .1)$ has in vicino sit signo. The standard expression of this disposition in Manetho (e.g.
.
 Manetho 1.121, 3.50 (although in both cases it controls the genitive).
$\zeta_{\zeta \omega \iota} \delta[\bar{c}] \omega$ ó Kpovoc: the suprascript $\omega y$ after $\zeta \omega \omega \delta[.] \omega$ to be addcd (not substituted) before $\delta$ K Kóvoc, with the final sylliable of $\zeta \omega \delta \delta[i] \omega$ shortcning in correption before $\grave{\omega}$, taken as complementary participle with ruxn, again, apparently correctly (c. var. lect. in
addition, but with it the hiatus is neatly avoided.
$\delta$ Kpóvoc: the articlc usually omitted with the planct names and their epithets, but appears at timcs 4505 fr. I. 6 as restored $\tau \eta \eta_{\nu} K v[\theta \epsilon \in \rho \eta \nu$.

12 'and Venus effects a conjunction with him (sc. Saturn) first'. But in the Latin Saturn is the subject of the




After 12 the placement of the paragraphos is puzzling (cf. on I ), since it falls in the middlic of a prediction. As it stands, the positions described in 10-15 are too complex and contradictory taken togcther to delineate either the marriage sign or the birth sign of a single individual. Perhaps it combines both, with the paragraphos
marking off the configuration which is that of the marriage sign ( $10-12$ ) from that of the (husband's) birth $\operatorname{sign}\left(\mathrm{I}^{-1} 5\right.$ ). (The paragraphos after 9 would in this case set off a prediction which combincs both.) It is true that none of the configurations described are specifically said to be those of the husband; but something to this effect may have been said in the lost $\mathrm{I}_{5} \mathrm{~b}$ (where Firmicus gives the missing Luna et horoscopo, together with the less crucial Sol sit in $M C$ ), and in any casc 16 makes it clcar that the prediction is for a malc, whilc 17 gives the complementary gcnethliacal dctails for the female counterpart. If this is correct (and if it is not, the position described in I3, missing in the prediction as related by Frmicus . .3.1, $^{\text {and }}$, despite the possible conllicts with che position given in 1), the p.
loss of a crucial bit of information in 15b.

I4 ḃdoòc: 'deadly', as often of Mars: Hephaestion p. 260.17, 285.25 Pingree; cr. Manctho 3.464.
${ }^{14} 5 \mathrm{a} \mu \hat{0} \mathrm{v} v o c$ is by far the more common form: Doroth. fr. V 27.13 p. 402 Pingree (of Selenc); Manetho
 fr. V 25.59 p. 399 Pingree (of Venus).

15b At least one hexamcter has dropped at this point (as similarly aftcr P. Schubart 15.35 , and the pentameters in $\mathbf{4 5 0 3}$ front), where Firmicus (6.30.1) supplies an additional position: et Sol sit in MC., Luna et horosocopo in Cancro conssitutitis, i.e. if the Sun is in mid-heaven, and the Moon and the ascendant are both in
Cancer. The prediction in 16 seems rather bricf in comparison with Firmicus' (who explains that onc will be in this way removed from celestial protection), and in particular begins with a disjunctive particle, thus omitting the rather crucial reference to intercourse with one's mother. We need at least one line supplying the Greck for Luna et horoscopo in Cancro conssitutis (possibly also specifying that the prcdiction is for a male), together with a reference to the mother: e.g. $\bar{\eta} \tau$ óre $\mu \eta \tau \rho i$ vel sim. There scems to have been a chiastic ordering in the Greek: I 5 b-16 $\mu \eta \tau \rho i \ldots \mu \eta \tau \rho v v \hat{\lambda}$ apparently matched in 18 (if not hopelcssly corr
father. Firmicus, on the other hand has matrum aut nouercas balanced by patri aut uitrico.
 Pingree, Ptol. Tctr. 188, 19 fl , and the passages cited by Cumont, Legyble $178 \mathrm{n} .3,179 \mathrm{nn} .3-4$. 1 . Marmicus
at this point ( 6.30 .1 ) explains that tradition records that Oedipus had precisely this birth-chart. Manetho gives Oedipus' horoscope at 6.160-9. Anoubion gives the same prediction but omits all mention of the mythological exemplum. Judged from $\mathbf{4 5 0 5}$ he also omitted them elsewhcre (though sce below on col. iii 9 ).

$1 \eta^{\prime}-18$ 'But if it is a woman who is born with this bith-chart, she will (be called the wife of? go to bed with') either her step-father or father'.

17 The entire line replicated exactly in Firmicus (6.30.1 si uero mulieris fuent ista genitura). In this way it is made clear that the previous prediction was for a male, though this is nowhere stated, and only revealed marriage sightion in 16 aivórcribed at ac. Presumably Anoubion means this prediction to bc combined wifn the
 ... ${ }^{\text {') }}$ ) occupies an entire formulaic hexameter, which as such could be potentially reused over and over in different predictions.

18 av $\delta \rho \dot{\rho} \dot{o}\langle c\rangle:$ There is not room for the sigma; perhaps it was omitted along with the following word, which has dropped. If we read ávópọ<c>, we will still be short a half foot before the cacsura, which has
 Manetho 3.359, 5.105, III. The pronoun is missing in Firmicus for the woman's horoscope, though it is
given for the man (6.30.r matrum suarum ... nouercas suas), where it is unstated in Anoubion (unless it came in the lost 15 b )
$\lambda \epsilon \epsilon \epsilon \tau a u:$ What does it mean? (i) 'shc will be callcd her own mothcr's husband's', i.e. be 'said to belong to i.e. "be the wife of" her stcpfather: future of $\lambda$ érw with passivc sense as at Eur. Alc. 322, LSJ sv. III citing
 (LSJj sv. Taxthp); or (ii) future of $\lambda \in \chi \chi \mu a z$ : 'she will lie down (with)' her stepfather, etc. This usually mcans 'in
 of the domble genitive must be endured in either case (with or without the possessivaco. The awkwardncss




19 Unusually here the prediction comcs first followed by an introduction of the Moon as the determinate sign for the already statcd outcome. The actual position of the moon for this result is postponed until 21 df , where it is introduced by the pronoun $\tau \mathfrak{\eta} \nu \delta \varepsilon$ in 20 . For this demonstrative pronoun pointing ahead sec 4505 fr. 2.6. There, howevcr, it introduces an cxtended outcomc, whereas here it introduces an elaborate prediction steipal: Cumont
milarly äcrep poo 'without issuc': 185 with n .2 for parallels, apparently onc of the miscries of everyday life.
 into two separate and different predictions, both with similar outcomes. Cf. on 4503 back fr. 2.9-12. Anoubion,
 Firmicus gives only the chart for males.




cкeito Hc is not so called by either Manctho or Hephacstion, but is by Dorotheus fr. V, 5 16-17 p. 386 Pingree Note that Firmicus spcaks not of the Sun at all in the corrcsponding passage at 6.30.2-3, but rather of th Moon, in rclation to the equinox
$\hat{\eta} \lambda \theta$ ey: the aorist, of course, nced not be temporal (cf. $\mathbf{4 5 0 3}$ back fr. 2.10). But if it is, the passage seem to be lapsing into a poctic narrative about the motion and rclative positioning of the planets (or alluding to odeviev: cf. Manetho 3.125, 6.76 .
 (i.c. the astral position imum medium caelum, IMC) see Manetho 2.53, $126,3.147,156,238$.

Col. iii
${ }^{1}$ e.g. ${ }^{2} \nu[\delta \dot{\epsilon} \kappa \tau \lambda$.
1-2I It is impossible to distinguish the hexameters from the pentameters, since 2 I is certainly not the
end of the book (the verses in $\mathbf{4 5 0 3}$ back and $\mathbf{4 5 0 5}$ must have followed) and of the book (the verses in $\mathbf{4 5 0 3}$ back and $\mathbf{4 5 0 5}$ must have followed).
9 Bencath the line is a paragraphos, perhaps marking punctuation or delineating a section as in col. ii An asterisk-shaped graphic, with a hook over left on the diagonal stroke at upper left (as though in shape of
chi?), between two horizontal lines, is drawn level with lincs 8 -II. A coronis in this shape is found 2441 (sec Turner, GMAW ${ }^{2}$ no. 22) and in V 841 (Pindar's Paeanss), together with a regular coronis to the right. But this cannot be the end of the book (sce $20-\mathrm{I}$ and n . on $1-21$ ). None of the line beginnings her arc coincident with those of $\mathbf{4 5 0 3}$ back nor the concluding lines (as restored) in $\mathbf{4 5 0 5}$ (fr. 2.4-10). Although the composite nature of that text (excerpts compiled by subjicct headings?) makes it uncertain whether we should expect precisely the same text and book-division here, the Latin at least provides some control and
For the asteriskos sce Turner, GMAW² pp. 12-13 especially I 3 n. $62 ;$ K. McNamec, Sigha and Select

Marginalia ( 1992 ) It with n. 19, and 25 . At cnd of book it denotes closure (end of liad, beginning of comedy P. Ant. I 15); clsewhcre change. changc or speaker (Barcclona Aritita), metre, McNamse, Sigla p. g n. 4). Bu none of these really applics here. Nor does Firmicus' Latin version give any clear indication of what might have been signalled, though he does elaborate the names of famous mythological and historical figures who, he claims, had the birth-charts described. But col. ii 66 (where see note), together with 4505, makes clcar that these werc lacking in Anoubion. Rather than signaling textual disruption, the sign here probably herald the beginning of a new scction or cype of prediction (c.g. from bad to good outcomes, for which transition see Firmicus 6.30 .19 , immediately before 4505 ). A close paralipe (McNamce, Sigla p. 39). The use of subject headings to divide predictions in $\mathbf{4 5 0 5}$ may be compared (sce on $\mathbf{4 5 0 5}$ introd. and above on col. ii 56 ).
io Perhaps $\epsilon \frac{1 \nu}{}$ for $\hat{e} v$, as in ii to.
21 каi $\Phi[a \epsilon \theta \omega \nu(=$ Sol $)$, or каi $\Phi[a i v \omega \nu$ ( $=$ Saturn)?
D. OBBINK
4505. Anoubion, Elegiacs
$3^{6}$ 4B.95/D(3-4)a
$5.4 \times 16.8 \mathrm{~cm}$
Late second/early third century Plate XIV

A strip down the middle of a column (the last?) from a papyrus roll, broken horizontally across the middle into two pieces: fr. I preserving top margin and eight lines; fr. 2: io lines followed by book number (surrounded by decorative finials), title (two lines), and foot of column. Fibre continuities suggest that both are part of the same column, one above the other, but space in between is undetermined. As set out below no gap is presumed between the two fragments; it is possible (but unlikely) that line of fr. 2 is part of line 8 of fr . I (see on fr. 1.8). Continuity with the Latin version (fr. 2.9 $\hat{\rho} \eta \tau \eta \rho \rho=$ Firmicus Maternus 6.30.22 orator) suggests that not many lines have been lost. Elegiac distichs in whole or part. 4505, however, differs from 4503-4 (and P. Schubart 15) by the introduction of prose headings (at fr. 1.2 and 7) setting off groups of distichs (cf. III 464). In fr. I lines began $2-4$ letters to the left of the preserved edge, and within a letter or two (due to column drift) of the left margin in fr. 2, thus showing that the hexameters began at the same point as the pentameters.

Text written across the fibres. On the other side (front), along the fibres, are two columns of a document concerning granaries (ii $9 \theta \eta<a v[\rho-)$, consisting of ends of lines (col. i, some with numbers) and beginnings of lines (col. ii) separated by an intercolumn, in a large hand reminiscent of the chancery style in its elegance and vertical extension. Anoubion is written on the back, in a smallish rounded decorated informal hand of a fluid character, with some cursive tendencies (e. f . I. 2 ka ), but with affinities (like the documentary hand on the front) to the 'chancery' style. The text of Anoubion thus joins a small group of literary texts identified as written in styles related to or influenced by the 'chancery' script. See T. Renner in Akten des 21. Int. Papyrologenkongresses (Stuttgart and Leipzig 1997) ii $827-34$, whose comparisons (p.828) suggest a date late in the second or early third centuries; for dated parallels, esp. Schubart, P. Gr. Berol. no. 28
(194 AD) and $32 \mathrm{~b}(210 \mathrm{AD}$ ), cf. no. 27 . In 4505 there is slight vertical extension, so that 'square' letters (and some round ones, like $\theta$, but not $o, c, \omega$, or bowl of $\phi$ ) are taller than they are wide (c.g. $\epsilon, \theta, \nu, \eta$ ). Note the typical chancery $\kappa$ (fr. 2.8) with lower arm dipping down below the line before levelling out to horizontal, top arm added last, arcing slightly. The hand is generally upright, resisting a slight inclination to the right; written moderately fast, with many ligatures (cf. $\mu a \tau$ in fr. 2.I3); top-stroke of $\tau$ sloping down at right; $u$-shaped $\beta$ in fr. 2.4. Decoration: tiny finials on the feet of uprights, leftfacing hooks on the tops of $\iota, \phi$, approaching 'blobs' in places ( $\iota$ in fr. 2.12, top of $\phi$ in 2.4); delta (possibly Roman-sourced) with sagging base and right side closer to vertical than the left, which overlaps the apex with a hook to the left. Diminutive $o$ and $c$, likewise bowl of $\rho$ and $\omega$ which floats between top and bottom line, in contrast to the larger bowls of $\theta$ and $\phi$ which fill the space between top and bottom lines; $a$ also raised slightly in the line with a tail rising to near horizontal to connect with the following letter. There is a general bilinearity, broken by $\imath, \kappa$ (fr. 2.8), $\rho$ and $\phi$.

The original tops and bottoms of both column and roll are preserved, with top and bottom margins of 2.9 cm and 2.8 cm respectively. The column will have contained at least 8 (fr. I) + 10 (fr. 2), plus 4 (2 for book number, two for title), or at least 22 lines. Assuming no loss between frr. I and 2, this will have been the approximate height of the columns elsewhere in the roll, if the colophon with book number and title has been placed at the bottom of notional column space. The exact extent of the work cannot be determineds it is uncertain whether the text was precisely the same as in the other copies or not (see on 4504 introd. and col, iii 9). But the subscription in fr. 2 presumes at least one complete book, written in this case on the back of a recycled document.

A few lectional signs: internal (inorganic) trema at fr. I. 6 and fr. 2.5 ( $\epsilon c i \delta \eta)$, but no accents, breathings or quantity marks. Sometimes word-spacing is interposed (e.g. fr. I.I кас८y $\eta \tau \omega \nu \in \iota c$ ), but not consistently and sometimes ineptly (fr. 1.2). Paragraphoi were written (as in 4503,4504 , and 4506 and 4507 ) after fr. I.I and 6, separating individual predictions (as in III 464 and PSI III 157). A longer one extends under the first three preserved letters of fr. 2.10, marking the end of the book (was it combined with a coronis?).

Elision is effected but marked inconsistently: marked with apostrophe by the same scribe at the time of writing in fr. 2.3 and 6 after $\theta$ (which presumes $\dot{\varepsilon} v \dot{c}_{\text {, }}$ unless the $\theta$ has been written in error as at $\mathbf{4 5 0 3}$ front fr. 2.5), but tacit elision in fr. 2.4 and 5. There is orthographic division of double consonants $\left(\tau^{3} \tau\right)$ by apostrophe in fr. I. 6 (apparently added later by same scribe). Iota adscript never written, as far as we can tell. Only one scribe at work, who introduced no corrections.

Using Firmicus as a guide, $\mathbf{4 5 0 5}$ can be situated in Anoubion's poem, c. 50 verses after 4504 ( 17 predictions after Firmicus at $6.30 .20-3$ @ 3 lines per prediction on average), and c. 40 verses after $\mathbf{4 5 0 3}$ back (I3 predictions after Firmicus 6.30.6). It is unclear whether we have a complete or abridged copy with section headings inter-
polated, or a selection of excerpts organised by topic. The book number $(\Gamma)$ indicates that in this edition at any rate Anoubion's poem extended to at least three books.

The groups of distichs (apparently containing complete predictions) are prefaced by prose headings, describing the sort of person who could be expected to be born under the given signs and be subject to the predicted outcomes. Similar inset prose headings, describing a type of person and couched in the genitive (with and without $\pi \epsilon \rho i$, likewise preface the astrological epigrams preserved in III 464, where in each case they follow a paragraphos marking the conclusion of each of the predictions. These headings describing types of people may anticipate the examples of famous people (some of them from myth) given occasionally by Manetho and in particular by Firmicus for the predictions in this section. Yet the prose headings occur before the predictions, not after them as the exempla do in Manetho and Firmicus. It is at least clear that Anoubion's poem did not contain the exempla where we would have expected them from Firmicus or Manetho. Firmicus gives Oedipus at $6.30 .1=\mathbf{4 5 0 4}$ ii 16 , Paris at 6.30.12, Demosthenes at $6.30 .22=\mathbf{4 5 0 5} \mathrm{fr}$. 2, and adds four additional horoscopes not in 4505 - for Homer, Plato, Pindar and Archilochus, and Archimedes in a crescendo at 6.30.23-6 that closes section 6.30. Anoubion's third book ends at the point where Firmicus adduces Demosthenes as an example of a rhetor's horoscope.

It is worth asking what purpose a collection of predictions organised and headed by type of individual would serve. Did it allow one to confirm whether a person's (known) childlessness, wealth, etc. was predicted by their birth or marriage sign, or even to ascertain one's sign, for individuals who did not know when they themselves were born (and how many knew?) or were unable to compute the hour precisely? Or did it allow an astrologer to choose his predictions according to a desired outcome, and e.g. to tailor his predictions according to customer or for identical arrangement of birth signs? This is in fact suggested by Rhetorios at CCAG VIII 4 p. 208.4 ff., citing Anoubion as an authority, when he advises that the astrologer should pay special attention to the characteristics of his clients, their virtues and defects, so as to avoid predicting e.g. for someone who suffers from gout that he will be winner in a footrace, or for a blind man that he will become a painter. If this is correct, the prose headings might derive at some stage from the design of the author himself (were they originally verses here paraphrased as prose headings?).

Or are the prose headings simply an accoutrement of the literary collection, like the headings which preface the individual epigrams in 4502? If so, they may suggest that $\mathbf{4 5 0 5}$ is more a collection of epigrams rather than a continuous poem. And if so, were the verses (i) excerpted from a pre-existing poem in elegiac distichs? Or (ii) was Anoubion's poem later elaborated from individual epigrams like these, collected into a continuous poem? If (ii) we would expect them to be intelligible and complete in themselves. (i) might explain some of the incoherence, corruption, and lack of connection in $\mathbf{4 5 0 5}$ as a typical result of abridgement (so also in III 464 and PSI III 157). The fact that Firmicus' section 6.30 continues for four more predictions (the obviously later
embellished exempla not withstanding), might suggest that $\mathbf{4 5 0 5}$ derives from a fuller original version which has been curtailed to produce something like an anthology of astrological epigrams. The presence of a formal proem setting out systematic principles of the science in $\mathbf{4 5 0 3}$ suggests a planned organisation for the poem, perhaps even the versification of a prose treatment. But practice may have differed when it came to the collection of predictions: these may have multiplied in compilation through one edition of Anoubion to another, according to the predilections of the practitioner or the industry of the collector.

In the articulated text below, the prose headings are given in bold type to distinguish them from the distichs. In the papyrus they are written in the same hand, style, and spacing as the rest of the text except for the fact that they are inset from the beginnings of the poetic lines, perhaps centred in the column (as is the title in the colophon, fr. 2.I3).
Fr. I
$\downarrow$

єчха
] $\nu \in \iota \subset \tau \in \tau \rho \alpha \gamma \omega \nu \circ \nu \in \pi \alpha \nu$. [
] $\eta \epsilon \cup \pi \rho \alpha \kappa \tau о v с \pi \rho о с \phi i \lambda \epsilon$. [
5
] тоисалохоıсıфı入оıсхарı $[$
] $\tau$ 'тоь $\delta \eta \nu \epsilon с і \delta \eta \tau \eta \nu \kappa v[$ $\pi \epsilon \pi \alpha \iota \delta \epsilon \nu \mu \epsilon \nu$ оукаıф८. [

$$
\text { ].v каu }[.,], \epsilon \iota \subset \kappa .[
$$



$$
>\stackrel{\vee}{\Gamma}<
$$

$] \pi \epsilon \rho \iota \tau 0 v \delta \epsilon \subset \pi о \tau \sigma \cup$
】тоvӨєцатос
Fr. 1
I. [, high trace of upright with connecting oblique at top, $\varphi, \gamma$ not excluded? bencath this line, very tip of paragraphos spaced evenly between the lines under first prcserved trace ${ }_{2}$.[, high top with trace of foot arcing back left at bottom, $\mu$ possible top tip of right upright of $\mu$, like the $\mu$ in
trace slightly below mid-level, close in to $\epsilon$, a round top tip of right upright of $\mu$, like the $\mu, 6$ beneath this line, very tip of paragraphos bcneath first $\tau$ $8]$., very likely $\omega$ ligatured into following $\nu$, as in I $\tau \omega \nu$ and fr. $2.2 \gamma \omega \nu$.]. $\epsilon \tau$, before $\epsilon \in$ an arc in tho upper right quadrant, o or $<$ suggested $\quad \kappa$. [, at en
$\lambda$, but $a$ not excluded if written as in fr. $2.5 \delta$ ккazo

Fr. 2
I ]...[, second letter lower half of $\epsilon$ or $\epsilon$, but rather horizontal extending stroke at mid-level suggest the former over the latter; then an upright with a finial on the foot, $\varphi, \eta, \pi, \gamma$, even $\varphi$ (but not $\rho$ ) right side of bowl, somewhat angular at lower right; a flattened o suggested, $\omega$ not ruled out? right sidc of bowl, somewhat angular at lower right, a flatcened oo suggestec,
leg of $\lambda$, perhaps sufficiently oblique to rule out $a$ ? 6 , right arm of $\varphi$. stroke without serif extension at foot leaning to right at top, with another stroke sloping down from a tight loop to lower right $\left.\begin{array}{lll}\mu \text { suggested: not } t, \kappa, \lambda, \nu, \text {, or } \pi & 8\end{array}\right]$, trace curving down into $\nu$ morc obliqucly than would bc expected for epsilon (cf. epsilon in 1o $\gamma]$ ]evvaiov), better $a \quad 9]$, right-hand arm of $\psi$. $[$, high tip of an uprigh
$[$, at end, horizontal
 fr, 2.2) below this line, a paragraphos spaced liberally beneath the line, extending to half way beneath the second $\nu$

Fr. I
(Firm. Mat. Math. 6.30.20-23)
$\downarrow$
(20) si Luna in MC. fucrit in uenta, et in IMC. Ucnus conrespiciat, ista coniunctio incestac cupiditatis ardore sor orcs fratribus iunget uxorcs. (21) si in dextro quadrato Lunae Ucnus fucrit collocata, faciet homines ad omnia officia ncgotiorum praeparatos, qui
sibi multarum amicitiarum praesidia conquirant, cl quos uxores fido diligunt scmper affectu, et facit omnibus amicis amabili caritate coniunctos. sed haec fortius conualescent, si unum de duobus trigonic Iuppiter radiationc respiciat
[..]ov $\kappa[\ldots a \gamma \omega \nu[$
[. . . ${ }^{\omega}$ ov $\delta^{\prime} \eta \mu \eta \nu a$ схŋ̂भ $\alpha$ $\tau \rho i ́ \gamma \omega[\nu o v(?)$

$5 \quad[\hat{\eta} \nu] \delta$ є́катоv $\delta^{\prime}$ є́cío $\eta\{\nu\} \theta \epsilon \mu a \tau$ [
$[\tau \alpha] \hat{\varphi} \theta^{\prime}$ є́vi $\theta \epsilon i c ~ \epsilon l c ̧ \eta$ тòv тádє $\mu[\epsilon \iota \rho o ́ \mu \epsilon \nu \circ \nu \cdot]$


$[\mu] \dot{\varphi} \theta \omega v \tau \epsilon \dot{\rho} \eta \tau \eta \hat{\eta} \alpha a \tau \alpha \chi v ̀ v \pi \rho \eta[c \tau \hat{\eta} \rho \alpha \phi \epsilon ́ \rho \circ v \tau \alpha$,
ı


$$
\stackrel{r}{r_{r}^{c}}
$$


[то̂̀ $\tau \rho i$ ] т тov Өє́ $\mu a \tau о с$
(22) si horoscopus in signo Virginis fuerit inuentus, et in eadem hora Mars et Mercurio-
et Uenus partiliter fucrint collocati, luppiter uero in occasu collocatus Piscium possederit signum, et his qui in horoscopo sunt partili radiatione iungatur, Sol uero in anafora horoscopi id est in Libra sit constitutus, et locum in Capricorno constituta possideat, Saturnus ucro in possideal, Saturnus ucro in signum Tauri teneat, qui sic hos omnes habucrit talis crit orator, ut in modum fulminum dictorum eius sententiac pro-
ferantur, ut pro arbitrio cius multitudinis animi aut quicscentes excitentur, aut incensi facilc mitigentur. talia etiam erunt eius dicta, ut haec ad augmentum et ad nutrimentum ingenii sui. posteritas contentiosa animositate perdis-
cat. talis orator $\dagger$ apud cat. talis orator ${ }^{\dagger}$ apud
Macedonem Marmorum ui sed orationis licentia persequebatur, et ut manifestius explicemus: hacc genitura diuinum Demostheni inspiravit ingenium. (23) si in Mars et Mercurius et Uenus simul fuerint collocati, et horosimul fuerint collocatit et horo-
scopus eiusdem partis possederit finem, Iuppiter uero in Geminis constitutus ex occasu hos omncs diametra rationc respiciat...
virtue and intelligence, and a rhetor who produces a swift hurricane of words, a noble, high-sounding,
formidable pursuer of judgement.

> (Book) 3 1 On the Ruling Sign of the Third (?) (i.e. 价e of?') Ilorosope

Fr. 1
I [кai $\delta \in]:$ The same beginning at Manetho 4.407 кaii $\delta e ̀$ кacivoírour. At the end, we need verb of motion/causation ( (クु $\gamma[\dot{\alpha} \gamma \epsilon \tau \tau 0$ ?): 'leads (someone with this sign) into marriage wilh siblings', unless this verb (a line-end at 4504 ii 13 )
 connccting particle, though for another case cf. $\mathbf{4 5 0 4}$ ii 2. Perhaps a distich has dropped, or was omitted when these lines were excerpted. (i) the verb is understood: 'when Venus (is situated) in right square to the Moon ..., with Venus as subject namcd at the end of the cine, c.g. emav vin
 or beginning of the next. Thus Venus as subject must be understood from the preceding prediction, or
 A $\phi \rho \circ \delta i \tau \eta \nu$.


4 faciet homines ad ommaa offcia negooiorum praeparatas, qui sibi muxtarum amicitiarum prasidia conquirant': the masculine plural accusatives in 4 and 5 show that we have an ácrìp äv $\begin{aligned} & \text { pac construction, i.e. the type of } \\ & \text { and }\end{aligned}$ prediction which expresscs in the plural the sort of person a given configuration will produce. Whecher we
supply $[A \phi p o \delta i \tau \eta \eta$ or $[E \in c i \delta] \eta$ at the beginning (and the other at the cnd of 3 ) we will have in either case correption of the third syllable. For the cnjambment with the pentameter sec 4503 front fr. 2.3-4, Cf. 10-11, Anoubion ap. CCAG II 202.33-6.
єìтра́ктоис: 'successful in practice', cf. Manetho (whose ms. shows the spelling with eta) 2.31 o , and (in

 upright. For the compound see Manetho $1.240,329 \pi p o c \phi$ wide expect to sce the top

 ence for paroxytones at verse-end in the pentamcter.

5 'ét quos uxores fido diligunt semper affectu, et facit omnibus amicis amabili caritate coniunctos': thus we will need a connective, plus an adjectivc describing how those born under this configuration are regarded by their spouses: either $[\tau \psi \mu \eta]$ ]ov́c or $[\{\mu \in \in]$ ] Toúc will suit (both suggested by Professor Parsons, with other refinements), àdóxouct see also III $\mathbf{4 6 4} 59$; though the context therc is uncertain the line there is not the same as this onc.


 is something like: 'It's cven morc so the case, if ...'. Jupiter and 'one of the two' (sc. Venus and the Moon) $K \nu \theta \in \rho-$ could be read; and $\tau \eta \nu \nu$ could be the article or the demonstrativc. Thus we could have (i) $\tau \dot{\eta} \nu \nu \nu \overline{ } \quad \theta \epsilon \rho \eta \nu$ Kpovicuv, 'when Jupiter aspects Venus' (for the article see on 4504 ii iI; the accusative never in Mancho,

 even further from what Firmicus says. It seems impossible to fit in $\tau \rho /$ ǐupov and accommodate exacly what Firmicus says. Thereforc it seems likely that Firmicus (or an intermediary) has refined or restated the predicion, so that the Latin gives a more complex arranges, it is not entirely clear whether this configuration is
meant as a new and independent prediction (separate from that in 2-5), or whether it is a modification of the precceding one, to be taken together with it (the latter seems more likely).
gui dacili sermone et divini ingeeni potestate contosilus.
8 'et in eadem hora Mars et Mercurius et Venus partiliter fuerint collocati'. Anoubion seems to have had nothin about the hora or Virgo (unless it came in the lacuna following, but see below). But if $\Pi \varphi[\rho]$ ofect (suggested by A. Jones) can be restored, then $[\mathcal{C} \tau \lambda \beta] \omega \nu$ at the beginning is suggested, and conforms admirably to the traces. At end after $\kappa$ we may have $\lambda$ (which is not very productive), or possibly $\alpha$. If $\kappa a[i$, , then out of possible epithets for Venus we should expect $\Phi \omega \subset \phi o ́ \rho o c$ to follow, based on Firmicus and metre (the next spccification in Firmicus, Jupiter, Kpovionc or Kpovicv, will not fit the traces here: kappa followed by the left side of alph or lambda).


Fr. 2 It cannot be ascertained which were hexameters, which pentameters, or whether these wer prose headings.

We take this to be part of an independent line (rather than one adjoining with fr. x.8), but with minimal or even no loss in between: Firmicus' account indicates that the prediction must begin within several lines, and in the Greck we get $\left.\left[{ }^{[ } H^{\epsilon}\right]\right]_{\mathrm{h}}$ boc $=$ Sol after thrce preserved lines (fr. 2.4). Anoubion's positioning of the planets is in any case likely to have been less sophisticated and more economical than in Firmicus.

Possibly $\tau \epsilon \tau \rho] a y \omega v[$. Cr. Anoubion ap. Hephaestion 2.2. (p. 9 I Pingree) vv. 11-12

$3] \omega v$ written as a variant for ]ov (the omicron apparently not cancelled). The proper articulation is not obvious; some re-writing will be required. Perhaps the scribe should have written $\delta^{\circ} \dot{\eta} M \eta \eta^{\prime} \nu \eta$ cx $\hat{\eta} \mu a$. If so and if verse, only onc long is lost at the beginning before ] $\omega$ or ]ov.

4 'Sol vero in anafora horoscopi id est in Libra sit constitutus, ett,': From this point the correspondence with Firmicus wanes, byat therc remain tantalising vestiges of the original. We have a refcrence to the sun, and $\delta(\hat{\epsilon})$ probably adding on a modification of a previously commenced position; an apparent hexameter, probably
with àvá in tmesis and oot, since âvazot 'harmless' (of two plancts in a particular position?) normally has a long second alpha. The shape of a pentameter is not in evidence; if a hexametcr, at least onc pentameter has dropped, since the next verse (5) is another hexameter.

Bıoт[: At Manetho 3.589 we have Biooov $\tau \in \lambda$ éoprac; at 3.384 the same phrase occurs at line-end. In Manetho 及iococ always refers to the kind of material fortune (usually considcrablc) providcd by a given
 with the Sun as subject (in Firmicus' more complicated configuration, the prediction appears to have been


$5-$ - 0 The $\operatorname{Tr}$ Greek bears less relation than usual to the Latin, which has been transformed by the interpolation of the historical exemplum, which has been corrupted in the mss. Nevertheless, vestiges of the original can be glimpsed here and therc.

 prossion in Manetho),
${ }^{\text {eiccn}}$ : cf. 4504 ii 2 var. lect. єv̌pouc, and for the second person used of the would be astrologer in an
 case the prediction, with its instruction to the reader in the sccond person, will be reminiscent of the direct address to the reader in $\mathbf{4 5 0 3}$ back fr. 2.3-6, where the reader is instructed to report his findings, having


 these things, i.e. the traits elaborated in $\rangle^{-10}$. But divinatory context and epicising style rccommend $\mu[$ Et $\rho \sigma-$

 than neut. pl. agreeing with $\tau \dot{d} \delta \varepsilon$ in enjarnbment).
xapievra could of course be ncuter plural as well as masc. acc., and we could articulate ${ }^{\eta} \theta_{\eta} \eta$ taken as object of $\mu[\epsilon \epsilon \rho \bar{\rho} \mu \epsilon \mathcal{V} \nu \overline{]}]$ vel. sim. in 6 (i.e. what is produced is not persons, but their characters or qualitics). But


 without the correspondence to Firmicus' orator

8-9 At the left edgc, we seem to be within a letter of the line beginnings at this point; cf. ro.
 from Manetho citcd below on 9 . Probably a genitive of characteristic, describing the kind of person born under this configuration, i.e. 'a man of ave $\mu$ [ETcXol or $\mu$ [.tpo

 and à $\rho \in \tau \dot{\eta}$ came in the preceding pentametcr (8).
$\dot{\rho} \eta \tau \hat{\eta} \rho a$ 亩 $\alpha \chi \partial v:$ raxúc could refer to speed or powcr of delivery, and thus be corrclated with Firmicus orator: in modum fulminum dictorum sius mulliuddinis animi. At end, it would also be possible to restore the ending
 Achlicating Homer extensively in favour of rewriting him, and there is nothing corresponding in the Latin,
 It is at any rate abundantly clear that the Greck did not include mention of Philip of Macconon or Demosthenes given as historical cxempla by Firmicus (6.30.22).
to For $\delta$ etvóv as a technical term in rhetoric sce J. Rea, 2 PF 99 (r993) 83.
$a^{\gamma} \gamma[$ ovia $\delta i \kappa \eta \eta]$ : is exempli gratia, i.e. the sort of expression that might have given rise to Firmicus' use of Demosthenes as a famous example of this type of person (non armorim vi sed orationis licentia persequebaurr) Professor Parsons suggests àr[ $\omega v 0$ oéc $\tau \eta]$ ( $=$ Firmicus' pro arbitrio eius).

II $I$. For the decorations esp. in colophons on numbers and titles see R. Cribiore, Writing, Teachers, and Sudents (rg96) 79 with further litcrature. Often the book number follows the title in colophons, rather than preceding as here. But practice is not fixcd in this regard. ['Avoußicuvoc], stood in the genitive in the lacuna, 12 It is reasonable to suppose that the author's name, lines of the colophon did not extend further left than the lines of the column. In addition, $\pi \epsilon \rho \iota \tau$ (without anything preceding) would be centred more or less cxactly on the last line of versc. But this ignores the fact that the $\Gamma$ (book number) is already positioned in the preceding linc far to the left of the centre of
the last line of verse. One might have expected the $\Gamma$ to be centred in the colophon, so that $(\pi) \leqslant \rho \iota \tau o v ~ \delta e c \pi o r o v$ the last line of verse. One might have expected the $\Gamma$ to be centred in the colophon, so that $(\pi) \leqslant \rho$ rou deciorou
would be balanced by as many letters to the left of $\Gamma$ as it shows to the right, and allowing [Avovßicyoc] to stand in this placc. Alternatives may be canvassed: perhaps the name stood in the nominative case, or perhaps
 ${ }_{A}^{A v o u p i c u v ~ e ̀ v ~ r o i c c ~ e ̀ d e y \epsilon i o u c ~ h e ~ p r o b a b l y ~ m e a n s ~ e ̀ d e y \epsilon i c ~ a s ~ a ~ d e s c r i p t i o n ~ o f ~ A . ' s ~ v e r s c-f o r m, ~ n o t ~ a s ~ a ~ t i t l e ~(s o ~}$ Gundel and Gundel, Astrologoumena 156 n. 41, against Cumont, CCAG VII 1.147).
$\delta \epsilon \subset \pi \delta \dot{\sigma} \boldsymbol{\sigma}:$ : the ruling sign of the housc, by which the predictions are framed. The prose headings, however, tress not the signs ( $\zeta \dot{\phi} \delta \boldsymbol{\delta} \alpha, \theta \dot{\epsilon} \mu a \tau \alpha)$ themsclves, but the types of people who are born or marricd under them (see introd., on the prose headings).

- [ruta, or what we call a horoscops the positioning of the heavenly bodies as charted by the astrologer, night); Anoubion ap. Hcphaestion 2.2. (p. go Pingree) vv. 9-10


 mended at least by the book number ( $r$ ), entailing two preccding books, presumably cach devoted to the mended at least by the book number (), entailing two prccciing books, presumably cach devoted to the
dominion of a different sign, though giving particulars for specific accompanying configurations. At least two books might have been suspected from the excerpted distich which closes Manctho book 5:

(Cf. Usencr, RhMus N.F. 55 (Igoo) 336 .) Book Three will have presumably dealt with the domination of (Cf. Usencr, RhMus N.F. 55 ( 1900 ) 336 .) Book
Venus. Perhaps the 'third type of $\theta$ éma is meant'.

At this point (6.30.23-6) Firmicus adds four additional predictions (see introd.), each positive in their outcome and embellished with encomia of Homer, Plato, Pindar and Archilochus, and Archimedes in terms reminiscent of this concluding, positive prediction in Anoubion's third book. This suggests that although inspired by Anoubion, as in 4503 back (see on fr. 2.9-12), Firmicus has diversified his data in ordcr to manufacturc multiple predictions out of what in his source was a single one.
D. OBBINK
4506. Anoubion (p), Elegiacs
$50{ }_{4} \mathrm{~B} .30 / \mathrm{C}(\mathrm{r}-3) \mathrm{B} \mathrm{b} \quad$ fr. $1: 7.5 \times 9.2 \mathrm{~cm} \quad$ Second century
Four fragments from a register of persons with distinguishing characteristics (late i-ii?) recycled as a literary roll. Elegiac distichs are written across the fibres in a respectable bookhand: one fragment with top margin of 2.5 cm and ends of I2 lines, and three further fragments, one of them with line-ends. Fibre alignment (discerned by Dr Coles) confirms the placing of fr. 2 directly below fr. 1 , but at an indeterminate interval. The placing of frr. 3-4 is uncertain, and there is no guarantee that they belong to the same column. Hand is a very round upright capital, fairly bilinear; bottom-line violated by only $\phi$ and $\rho$. Letters in general made separately, but there is some connection tolerated, in spite of the formality and speed of the hand (e.g. in fr. I.I $\epsilon \nu \tau$ ). Epsilon is of the variety with the mid-stroke extending beyond the arms to the right, with the top coming over so far as sometimes to connect with the tip of the mid-stroke or nearly so. Alpha is of the variety with a flat top but sagging bottom in its left-hand part, which is sometimes only flimsily connected to the right-hand oblique (e.g. fr. 2.6); the oblique sometimes bows inward (fr. I.3). Hypsilon large and v-shaped, with a tiny loop at bottom, fully bilinear. No decoration, minimal shading. Letter forms suggest second century: the alpha earlier, the hypsilon later. XVIII 2161 Aeschylus, Dictyulci (ii AD assigned) $=G M A W^{2} 24$ is a rough parallel (except for the alpha, for which see e.g. P. Fayum $6=G L H$ 9c, Homer, Iliad, after early i AD).

There are no reading marks or word articulation. In fr. 3 a paragraphos appears, whether for punctuation or to divide the verses into groups is uncertain. There is no preserved evidence for elision.

There is no identifiable overlap with any known text of Anoubion in either the papyrus fragments or quotations in the secondary tradition, nor with any of the astrological elegiacs not specifically attributed to Anoubion. Diction and content are consistent with them, and identification as elegiacs is beyond question. No link with any part of Firmicus Maternus has been discovered.

Thus the authorship (like that of 4507) cannot be determined with certainty. If not from Anoubion's original poem, 4506-7 are at least related to Anoubion, in the same way as the other astrological elegiac adespota: III $\mathbf{4 6 4}$ (late iii AD pap. roll), P. Ryl. III 488, P. Schubart I6, PSI III ${ }^{5} 57$ (all ii AD papyrus rolls), the pentameters of the modular elegiac horoscopes interspersed throughout book 5 of Manetho (one quoted as from Manetho by Hephaestion 2.4 p. 102.Io-I I Pingree $=$ Manetho 5.167-9), and we astrological elegiac distichs in D. Hagedorn ed., Der Hiobkommentar des Arianers Fulian (Berlin 1973) 255.5-I I, 260.2-6, cf. introd. LXVI-LXIX on Anoubion. Some of these do in fact find parallels scattered throughout the text of Firmicus (e.g. books 3 and 4 in the case of PSI III 157). Even where they do not find such parallels, a case can be made that some of these elegiacs (where textually and metrically sound) derive from A.'s poem. A. Ludwich argued that they all do: 'Das elegische Lehrgedicht des Astrologen Anubion und die Manethoniana', Philologus $63=$ N.S. 17 (1904) in 6-34; id. 'Nachlese zu den Fragmenten des Astrologen Anubion', Philologus $64=$ N.S. 18 (Ig05) $280-3$. The elegiac distichs attributed to Avovßicuv '̀v roîc '่̇ $\lambda \epsilon \gamma \epsilon$ ढiouc by Hephaestion of Thebes and Rhetorios are similarly nowhere paralleled in Firmicus. In any event, the case for Anoubion's authorship of all these elegiacs is stronger, now that it is known (from the proem preserved in 4503, with 4504-5 and P. Schubart $\mathrm{I}_{5}$ ) that his work circulated as a formal didactic poem. For III $\mathbf{4 6 4}$ see the corrections of Housman in $C R$ г7 (1903) 385-6; W. Kroll, 'Ein astrologischer Dichterling', Philologus $6_{3}=$ N.S. I7 (1904) I 35-8; S. Weinstock, Cd ${ }^{\top} E_{2} 2$ (1952) 216; O. Neugebauer and H. B. van Hoesen, 'Astrological Papyri and Ostraca: Bibliographical Notes', Proceedings of the American Philosophical Society 108 (1964) 6I no. 122. Like 4503-5 and the other elegiac adespota, 4506 and 4507 both recycle expressions from Dorotheus and Manetho, confirming the hypothesis of Weinstock (p. 216) that Anoubion and perhaps other writers of astrological epigrams and hexameters reused their own and each other's verses in compilation fashion, as the Manethoniana repeat hexameters of Dorotheus.

The word divisions introduced are not in the papyrus.

Fr. I
$\downarrow$


5
]. oı vvðovc
] то $\pi \alpha c$
]aө $\eta \mu a \tau \alpha \tau$.
] $K \in \nu$
] .ката . . . $\nu[$
lovac
${ }^{\alpha}{ }^{\alpha}$
]...

3 ], horizontal at mid-level projecting as from $\tau$
5 ]., high ink, arching up in left half of letter space, horizontal at top line in right half ] $]$, centred upright, with horizontal connecting at right
$8] \kappa$, projecting upper and lower arms as of
9 ], round letter: $o, \omega$ after кara, something close in, rounded: $c, ~ €$, then perhaps a diagonal sloping to right, as in left half of $v$ and apparently ruling out previous letter as $\omega$, followed by descender slightly below bottom line, as of $p$,
io at line-end, raised stroke of punctuation
F. $x$

 3 кotpaveovcav: Manetho 1.1 кotpavéovтєе, 350 коьрауéoveiv.

## Fr.

$\downarrow$


Fr. 2 is to be placed more or less directly under fr. I, since the fibres match, with line-ends aligning, but precise gap unknown.
could be the lower parts of the letters in fr. I line 12, but readings are too tenuous to arguc for this.
 ( $\mathrm{I} .454,2.400$ ).

 9 First letter could be o, but if this is a pentamcter, a short syllable will be wanted. Thus a c falling forward?

Fr. 3
$\downarrow$
]. . .

## ]єvкос $\mu \eta[$

]. $\kappa \in \cup \tau \rho$. [
] vсофор[
5 ] кроуov
]. [.] $] \in \epsilon[$
]. [
$3]$, an upright: $b$, or right side of $\nu \quad$. [, left half of round lecter, $o$ possible, but left open at top: $\omega$ ?

I The paragraphos suggests placement near the beginning of the line (evcn if it is a paragraphos of the cxceptionally long variety, such as appear in many subliterary texts, e.g. in the astrological elegiacs III 464,
PSI III 157). But alignment in register on front discourages placement at the line bcginnings of the same column as frr. I-2. Therefore col. ii? Placement of paragraphos after I suggests that I is a pentameter, 2 a hexametcr

Fr. 4
$\downarrow$
] $\beta v \eta \tau \epsilon$
]. $\alpha \nu \llbracket \epsilon \rrbracket \eta \subset$.
]. $\alpha \nu \theta \rho \omega[\pi]$. [
]. . $а \mu \alpha[] \tau[$
5 ] גоьo
]oф $0 a \lambda \mu[$

Ivc. L. 10. .
1.
]. [
$2 \in$ deleted with diagonal stroke .[, upright: iota, or left side e.g. of $\eta$
3 ], horizontal along bottom-line, with oblique slanting into $\alpha$, probably $\delta$
4 bcfore 4 , curving left hand side of letter with low sagging stroke coming in at left: $\mu$ ?
Apparently line-ends $(1,5)$ but allocation of hexameter and pentamcter is difficult
3 av ${ }^{\alpha} \theta \omega \omega[\pi]$. [: Manetho has $\grave{\nu} \nu \theta \rho \dot{\omega} \pi \pi o u c z v$ often at hexameter-end, esp. in book $5:$ I62, $183,200,228,280$


D. OBBINK
4507. Anoubion (p), Eleg.acs

IB.115/A(c)
$+/ \mathrm{B}(\mathrm{c})$

Fourth or fifth century
Plates XI-XII

Three fragments from a codex written in a later Biblical maiuscule. Elegiac distich are written, discoverable from the metrical shapes of preserved line-ends. There are several terms reminiscent of the epic-Ionic astrological poetic diction; a rare poetic term from astrology shared with Manetho occurs in $\downarrow$ fr. 2. But the preceding and following lines do not match M.'s text there, being in any case hexameters rather than pentameters. Nor is there any identifiable overlap with sections of Firmicus Maternus to secure an identification with Anoubion as in 4503-5. Nevertheless the fragments are of interest for the survival of an elegiac carmen astrologicum into the later period.

The hand is a formal, rounded Biblical capital with more than usual contrast between thick and thin strokes (e.g. $\downarrow$ fr. I. 2 in the hypsilon in $\epsilon v$ which shows in addition the precise angle of the pen) and between wide and narrow letters, and also between square letters which fill the space between top and bottom line and round ones (epsilon, omicron, sigma); unfortunately no clear example of omega. Descenders of rho and hypsilon dive below the base-line; iota projects above the top line, and likewise the vertical of phi, though the one surviving case appears to be restrained. Tails of rho and hypsilon curve back to left. Otherwise little decoration. Triangular alpha in three strokes adds to these features that may exhibit the lingering influence of the severe style. A good comparison is III 411 (B.M. Pap. 1523, Life of Alcibiades), GMAW no. 71, parchment codex, fifth century (assigned), with similar shading but less contrast between tall square and narrow, floating round letters.

Written in a now brownish ink. Front and back cannot be determined. Size of writing and spacing between lines is ample. As preserved, no accents or lectional signs, nor indications about the treatment of elision. No word or syllabic division nor any sign of correction, but a respectable copy in book form.

Word divisions have been introduced
$\rightarrow$ Fr. I

## ] $\phi \quad \eta c \in \mu a \theta$ [

[
]фраүıсцата ноьр. [
[
]. . [.] . . $c \in \phi \cup[$
 3 another pentameter.)
2 . [, horizontal base high in the letter, as omicron (or perhaps omega), not alpha. No doubt c] $] \varnothing a y / \subset \mu a \tau \alpha \mu о \circ \rho \omega[$.
$\rightarrow$ Fr. 2

| $[$ | $] .[] ..[$ |
| :--- | :--- |
| $[$ | $] \epsilon \lambda \iota o \iota o$ |
|  | $]$ |

 4.153, 5.112.
$\rightarrow$ Fr. 3
]. $\eta \nu \eta$ каркьข[
] $\theta \eta \lambda v$ к $\alpha \iota ~ \alpha \rho \rho ̣[$
]sıoса. . [
]. $\omega \subset \tau \eta[$

I ]., projecting foot or base at right, lambda or delta or best mu, i.e. Mìv ${ }^{\eta}$ or or $M \dot{\eta} \dot{\eta}$. At end: Kapкív| 2 A prediction for both a masculine and feminine geniture. 3 . [, $\delta$ or $\lambda$ followed by something very round: epsilon, unless $\lambda \theta$. If $\Delta \dot{\omega} c(=$ Iuppiter), then the following alpha must be long, e.g. not àd $\delta \in[\lambda \phi$
$\downarrow$ Fr. I

2. oc: tail of $\rho$, or $\phi$.

If the horizontal ink under the first two letter-traces in line 2 is the end of a paragraphos, then this is likely to be a pentameter, and we would have line beginnings.

3 кєvoסpouєov[: a rare poetic term from astrology referring to the rising or setting of a sign without the
 here, but the preceding and following line do not

$\downarrow$ Fr. 2

```
]....[.]..[
]ка\pi\rhoо.[
]\pi\alpha\tau\rho\iotaк\alpha[
```

2 ]кampo, [: After omicron there is a vertical, followed by a diagonal descending to lower right (giving the impression of nu), but also definitely diagonal ink ascending to upper right, fully compatible with kappa

 preted as iota followed by a diamond-shaped phi (cf. $\rightarrow$ fr. 2.3). If so, кdimpo! (e.g. $\phi[a \gamma \epsilon \mu \mu v)$ may refer to a predicted fate of being devoured by wild beasts, as at Manetho 6.192-4:



The passage goes on to add rending by the claws of a panther or the tecth of a lion.) This is the only

$\downarrow$ Fr. 3

1. . . . . . [
] $\alpha \lambda \lambda \alpha$. . . .
Obscured traces of two more lines

3-4 Letters arc present, but fading of the ink and darkening of the papyrus and encrusted dirt have
Imost entirely obscured them. almost entirely obscured them

## III．COMEDY

4508．Prose Mentioning Aristophanes

## 88／474（a）

Fr． $13.3 \times 5 \mathrm{~cm}$
Second century Plate XV
Four fragments of a roll containing a work of prose．There is a lower margin of 1.7 cm in fr．I；fr． 3 preserves part of the intercolumnium on its right．A kollesis is visible near the right－hand edge of fr．3．If the restorations proposed below for fr．I．9－1 I have any chance of being true，the original line length may be estimated at $14-17$ letters， that is 3.6 cm ；but this is perhaps unlikely，see $1.7-$ I n ．The writing is along the fibres． There is nothing on the back

The hand，medium－sized and informal，is of the general type in which many commentaries and hypotheses were written．The letters do not always have the same ductus，and ligatures are often admitted．$\pi$ has its right－hand leg curved，$c$ is made in two movements，with the cap traced later，$v$ appears either as a sweeping shallow curve on a long stem or v－shaped，$\omega$ is flat－based．Some features，like the lop－sided triangular omicron and the broad sweeping top of upsilon，have parallels in a group of literary hands commonly ascribed to the later second century，see XXXIV 2683 introd．（LXIV 4405 is another fragment of the same manuscript；the hand is now assigned to the late second／early third century，but I see no reason to uphold the later terminus；cf．also M．W．Haslam，LVII 3878 introd．）．But this hand does not have the highly stylised narrow $\epsilon, \theta, c$ ，or not consistently（straight－backed epsilon twice，but elsewhere broad and round）．A date within the latter half of the second century seems likely．

The chief point of interest is the reference to Aristophanes＇＂$\Omega \rho a u$ ．Only a few fragments of this play（frr．577－89）have been transmitted through the indirect tradition． Its plot centred on the quarrel between the established and the new gods（for an analysis see J．Moreau，Nouv．Clio 6 （1954） 327 ff．）．It is probable that shortly after the point where fr．I breaks off a quotation was given．What precedes the reference to ${ }^{*} \Omega \rho \alpha \iota$ gives little clue as to its content．

The only lectional sign in evidence is a circumflex in fr．4．2．Given that there must have been at least one verse of poetry cited in this work，and that circumflexes are more at home in a poetic text，we could think of a quotation from poetry．

The nature of the text is not clear．The content might lead us to think of a commentary，perhaps on a comic play．But there is more than one kind of prose that could include quotations，and didascalic material，if that is to be recognised in fr．2， such as treatises on literary criticism，literary biographies，anecdotal works，etc． Ammonios＇$K \omega \mu \omega \delta o v ́ \mu \epsilon v o t$, a work discussing various individuals satirised in Old Comedy，is no more than a possibility

I am grateful to Professor W．Luppe for the suggestions quoted．

Fr．I

| ］oda［ |  |
| :---: | :---: |
| $\mid \nu \delta[$ |  |
| ］cr［ |  |
|  |  |
| ］avoт［．．．．］$\epsilon \rho \sim$［ |  |
| ］＜филакךсть［ | ］¢ фvגакทิ¢ $\pi \iota[$ |
|  | $X] \alpha \rho ı \alpha ́ \delta \eta<~ \tau \hat{\omega} \nu[$（or $\tau \hat{\omega} \nu \mathrm{\nu}$ ］ |
| ］．$\omega \nu \kappa \alpha \lambda \lambda \iota o v[$ | ］．$\omega \nu$ Ka入入iov［ |
| ］roфa⿱亠乂¢є¢．［ |  |
| ］apayeırac $\omega \rho$［ |  |
| ］ovcacтоосто［． | －］ov́cac mpòc тo［ |
| （foot） |  |

4 ．［，possibly top of descending oblique，but see notc below
8］，horizontal trace between th ement possibly top of descending oblique，but see notc below ${ }^{8}$ ］，horizontal trace bctwecn

| Fr． 2 | Fr． 3 | Fr． 4 |
| :---: | :---: | :---: |
| ． | －． | ． |
| ］．$c \in v$ ．［ | ］．$\in \lambda o \iota \quad[$ | ］co．［ |
| ］$\tau \circ \phi \iota \lambda$［ | ］$\alpha$ ¢тᄂ［］［ | ］$\phi \hat{\alpha} \nu \delta$［ |
| ］ v ¢ $\eta<$［ | ］．ข\％［ | $] \delta \in \delta \in \iota$［ |
| ］． oa ．．［ | ］．vcıa［ | ］．$\rho \subset \alpha / \pi[$ |
| ］．．$\tau \circ[$ | ］$\omega \nu \iota$［ | ］．$!<\ldots \alpha$ ．［ |
| ］єкрь，［ | ］$\epsilon \nu \eta \quad[$ | ．． |
| ］act［ | ］．$\delta \iota a$［ |  |
| ］．крıv．［ | $] \lambda \lambda \iota \quad$［ |  |
| ］$\theta \in \subset \subset$［ | ］ovy［ |  |
| ］．．．［ | ．． |  |

Fr． $2 \quad 1]$ ．，lower part of $o$ ？$[, \eta, \nu$ or left－hand part of $\pi \quad 4]$ ，right－hand part of high horizontal ${ }^{1}$ ．，, left－hand part of $\nu($（？），then largc ink smudge that has covered also the ensuing lettcr 5 ］．，linkstroke；t or $\rho$ with minute circlet 6．［，upright joining descending oblique to top right（ $v$ ？） all traces on the hor

Fr. 3 I ], right-hand tip of horizontal at two-thirds height (linkstroke?) 3 ], lower part of dcscending oblique joining upright to right
$4]$, descending oblique joining upright at foot ( $\nu$ )
., right-hand tip of high horizontal
$\begin{array}{ll}\text { Fr. } & 4 \\ & 1 \\ \text { ing }\end{array}$.[, lower left-hand arc followed by long descender curved leftwards at foot $(\phi$ or $\psi$ ) rising oblique trace at two-thirds height, perhaps only a link-stroke 5 . , lowcr part of descending
oblique joining adjacent upright, link-stroke or part of $\alpha$

Fr. 1
4 The trace at the right-hand edge docs not exclude c (upper left-hand corncr), and in view of 1.9 one
 see below 7 n
$5 \pi r \theta] a v o \dot{\sigma}[\eta \tau a \pi] \epsilon \rho[$ is one possibility among many (also in $6 \pi \pi[\theta a y-$ might be considered).
6 фv入aкरोc. The word is attcsted in too wide a
is it clear how any of the towns called $\Phi$ vidaci would be relevant. Beforc it $\tau \hat{\AA}$ ] is a possibility passage; nor $7 X]$ aptíi $\delta \eta$ c. The identity of the person and the reason for which he is mentioned herc
Docs he relate to Kallias and/or the Aristophanic play? Or docs he belong to a different part of the obscure where the broken lines 1-6 also belong? The name is attested in Euphro fr. 1.7 and Sosip. fr, 1,11; both come from third century comcdies, and are monologues delivered by cooks. But it is hard to associate them with Kallias in the next line; date and status do not match. The name is not uncommon in classical Athens of Kallias Sine, topical reference in a comedy or of of the fifth century bear this name, cf. PA s.V., and one may think of a It may be worth
ffcials 684 - 391 B., C. ( 1080 ) 450 . He wase kill Athenian strategos named Xapoáónc, cf. R. Develin, Athenian The itacistic mistake, for oo, cannot be ruled out, but cannot be contemporary of Kallias and Aristophanes

B] . $\omega$. Perhaps to be taken with the $\gamma \omega \nu$ of the previous line proved
hort, but see below $7-11 \mathrm{n}$. The possibility that it is the ending of a ne ensuing genitive a Kahlo Acondin in to propose any identification,
$=$ Ar. fr. 583). He is the same person on Luc. Iov. trag. 48, Aristophancs made mention of Kallias in Horae not to be confused with his person as the one referred to in Ran. 428-30 and 501, Kallias son of Hipponikos socialite and womaniscr provided humorous material named Kadiliac $1 \pi \pi$ ovikov), whose reputation as a J. K. Davies, Athenian Propertied Famities $600-300$ material for Cratinus and possibly Eupolis. For this figure, cf.

The context of this reference to Kallias (cf. fro. (197r) 256 ff. and Dover's commentary ad locc.
contrary, it does not scem likely that he was onc of the characters of the play. Perhaps he only served for a comparison and/or as an example, in much the same manncr as in Ranae. If so, we may think that the purpose of the passage adduced from Horae was to illustrate a point regarding Kallias.
9 ev "S[pace? 'The surviving trace allows $\omega$. In commentaries refercnces to an author's work were formulated by $\epsilon \nu+$ dative or by the dative alone, with or without the articlc. But there can be no certainty bout this articulation
Iot infrequenlly found in the scholia on dramatic authors cc. LSj s.v. IIIb. In this sense and construction it is
 трò à̀ròv єitrồcav (and a quotation follows).

The ' $S_{\text {par }}$ composed the chorus of the play, of. Morcau, loc. cit. 327 ff .
 ourse $\pi$ and as in the first parallcl above, etc

7-11 Since the sense may run on directly from ro to 11, it is tempting to assume a short line and
$X$ |apáóonc $\tau \omega \nu[$ c. 4
wiv Kaddiou [ó $\delta^{\circ}$ Apı


$\gamma]$ oúcac $\pi \rho o ̀<~ \tau o[$
That leaves very little space to restore a connection between Chariades and Kallias in 7-8. Similarly 5-6 might belong closely together. But I do not see how to restore this in detail; and if we look for $A \rho \mu c[\tau 0 \phi a v-$ in 4 , the original line must have been longer (unless what I take as $\tau$ in 5 is upsilon; in that casc we get

 unless wc restore $\phi u \lambda \lambda a \kappa \eta t c \pi i[\theta \omega v$. He remarks that in $\eta$ there is no space for a conncctive particle, hence what comes before should be a lemma, and we are dealing with an hypomnema.)

Fr. 2 . $E u \pi[0 \lambda-$ is one possibility
$\left.\Phi_{1} \lambda \omega\right] v i o n c$, one of the producers of Aristophanes' plays, is an obvious, but not the sole, candidate for names with this ending see $A$ Iexicon of Greek Personal Names ii 493 f. It may not be unrelated to $\Phi_{1} \backslash[$ in and ] wov- in fr. 3.5. The other producer Kallistratos may have becn named in frr. 3.8, 4.5
 seems to have Philonides and Aristophanes acting his own plays in roughly the same context: $\mu \eta \delta \dot{\delta} \nu \mu \eta$
 thinks that, if we are dealing with a commentary, it could be that $] \epsilon \kappa \rho \rho \varphi[$ (6) belongs to a lemma, and is picked up by $]$ €крр $\nu \epsilon[$ ( 8) in the exegcsis.

9 vimó $] \theta \in \mathrm{cc}[\mathrm{c} / \nu$ would fit a didascalic context.
Fr. 3
4 tolyúcuca is an easy gues
$\left.K_{1}\right]_{\lambda} \lambda_{1}$ - one possibility, cf. 1.8, 4.5
Fr. 4
2 - $\ddagger$ фâv. Perhaps an infinitivc ending, such as, c.g., $\tau \rho v \nmid a ̂ v$.


N. GONIS
4509. Commentary on Ar. VespaE

88/IIg(a)
Fr. $13.8 \times 7.5 \mathrm{~cm}$
Second century
Five fragments from a commentary on Aristophanes' Vespae; the most substantial 1) refers intercolumnium survives on the left of fr. 5. The writing is along the fibres. The backs of frr. I and 4 are blank, but those of frr. 2 and 3 carry cursive writing (from a land
register?); this might suggest that frr, 2 and 3 come from a different roll, but I see no other reason to think so.

The hand is semi-cursive, of the kind that is often called 'scholiastic'. Letters usually touch, and in certain cases are ligatured to each other. Note the irregularity of the ductus of some letters: $v$ sometimes in the conventional shape but sometimes with the diagonal joining the right-hand hasta half way up, and $v$, usually $v$-shaped but once Y-shaped. Other remarkable letter forms include $\epsilon$ with protruding mid-stroke separated from the curve, the semi-cursive $\eta, \kappa$ u-shaped, $\pi$ with top and right-hand hasta in a single flow, $\phi$ with very prolonged stem. The script may be assigned to the second century, preferably to the latter half, It shares certain significant features with Schubart, PGB 32b, a document of c. 200, and BGU V 1210 (Gnomon of the Idios Logos) of c. 170. The cursive hand on the back of frr. 2 and 3 can be placed in the first half of the third century.

Because of its fragmentary nature, the precise layout of the commentary cannot be established with certainty. Lemmata may consist of a series of verses (1.8-10), or a single verse ( $\mathrm{I} . \mathrm{I}$ ? ), or a phrase ( I .7 ? ) ; in I .6 an individual word is picked out and glossed. The commentator is selective. Not every verse is represented (we pass straight from v. 36 to v. 38 , it seems); and despite the long lemmata, not every word in them will have been annotated, as we can judge from 1. 8, where $\phi\left[\alpha, \lambda \lambda a \iota \nu^{\prime}\right.$ ' is copied in the lemma although it must already have been explained at its first appearance in v. 35 .

Lernmata often begin in mid-line. It seems that they were set off by a short blank space from the preceding comment ( 1.8 ) and probably from the ensuing exegesis too (see I. 6 n ). Since the margin is lost, it is impossible to know whether they were further marked by ekthesis (as in e.g. XIX 2221) or by critical signs (diplai) or punctuation (paragraphoi); parallels show that such means of highlighting the quoted text were widely current, cf. K. McNamee, Marginalia and Commentaries in Greek Literary papyri (Diss. Duke 1977) 34 f.

No lectional signs are in evidence. There is one case of elision made tacitly ( $\mathrm{r}, 8$ ), Abbreviation by suspension occurs twice ( $\mathrm{I} .4,8$ ).

Although not much remains, verbal similarities allow a connection with the scholiastic tradition to be made. The wording of the comments on v. 36, contained in I.2-6, has many affinities with the existing scholia. Furthermore, if the restoration suggested in $1.4-5 \mathrm{n}$. below holds true, it is notable that this commentary combines two notes which appear separately in the medieval scholia, each in a distinct family of manuscripts ( $\Sigma^{\mathbb{R}}$ and $\Sigma^{\mathrm{V}}$ ); i.e. it testifies to a state of the exegesis before it was excerpted and dispersed. This general relationship comes as no surprise. Compare the very similar case in XI 1371, where the marginalia on Nu. I-I I coincide with those of $R$ and $V$ in both content and wording, cf. K. Dover, Aristophanes Frogs 96.

We suspect that the commentators of the Roman period drew on earlier work mainly through the varionum commentaries of Didymos. We know of two names, Symmachos and Phaeinos, and of some others referred to simply as 'some others'. The
date of Phaeinos is uncertain; Symmachos, if he was cited by Herodian (1.3r9.28f.), must have been active in the second century or earlier, not too distant from the date of our text. But of course there is no particular reason to attribute that text to either of them. (For literature on scholiastic activity regarding Aristophanes see J. Henderson, Lysistrata lvii n. 7.)

If the dating proposed is right, it seems that this is the oldest surviving commentary on a play of Aristophanes known from the medieval tradition. The other commentaries on Aristophanes which survive on papyrus are VI 856 ( $=$ Pack-Mertens $\left[3^{8)}\right.$ on Acharnenses (iii), PRain III 20 ( = Pack-Mertens I46.1) on Nubes (v), PRain I 34 + PVind ${ }_{2983} \mathrm{C}$ ( $=$ Pack-Mertens 149.2) on Pax (v), and two on lost comedies, XXXV 2737 ( $=$ Ar. fr. 590, i/ii) and PFlor II 112 ( $=$ Ar. fr. 59I, ii/iii). On Aristophanic commentaries see McNamee, op. cit. 187 ff.

What survives does not suffice to justify a confident assessment of the scope and quality of this commentary. It seems to have been more extensive and elaborate (note in the comment on v.36) than 856, which conveys only simple prosopographic and glossographic information. Whether it was as learned as 2737, it is impossible to tell in what we have the discussion is not very deep, but I doubt whether it could have gone any deeper on this particular passage.

With the exception of a mistake in v.39, the lemmata contribute nothing new towards the text of the play.

I am again indebted to Professor W. Luppe for his help with this text.

Fr. I

$$
\begin{align*}
& \text { ]... [ } \\
& ] \nu \epsilon \ldots . . \rho \eta \mu \epsilon .[  \tag{36}\\
& \text { ]. клє } \kappa \nu \alpha к а к о[ \\
& \text { ] } \pi a \phi \lambda a \gamma^{\circ} \alpha u \tau o \nu .[ \\
& 5 \text { ]. } \lambda a \zeta \epsilon \iota \nu \eta \nu \delta \epsilon \text {. [ } \\
& \text { ]. } \epsilon \mu \pi \epsilon \phi v \subset \eta \mu \epsilon[ \\
& \text { ]. ovтovขvสvเov. [ } \\
& \text { ]. } \mu^{\omega} \eta \theta \eta \mu \iota \alpha \rho \alpha \phi[ \\
& \text { ]ov } \eta \eta \mu \text { о . [ } \\
& \text { ro ]. } \epsilon \tau \text {. } \text { вucta. [ } \\
& \text { (foot) }
\end{align*}
$$

 rò] $\downarrow$ K入є́ $\omega \nu$ какако̣ ] Паф $\lambda \alpha \gamma o ́(v a) a v ̉ \tau o ̀ v ~ .[~$ $\pi \alpha] \phi \lambda a ́ \zeta \epsilon \iota \nu . \hat{\eta} \nu \delta \grave{\epsilon}$. [
]. 'є $\mu \pi \epsilon ф и с \eta \mu \epsilon ́ ~[\nu \eta с$
]. ov тoủvútviov. [
]. $\mu^{\omega} \dot{\eta} \theta^{\prime} \dot{\eta} \mu \iota a \rho a ̀ ~ \phi\left[a \lambda \lambda \alpha \iota \nu{ }^{\prime}\right.$
$\beta$ о́єı]ov $\delta \eta \mu o ̀ \nu \quad .[$


I ]...[, dots on line, probably fect of uprights $\quad 2 \in \ldots$, foot of ascending oblique followed by I ] . . [, dots on line, probably fcet of uprights $2 \in \ldots$, foot of ascending oblique tollowed by
trongly curved at the foot, together $\eta$ or $\pi$; lower part of left-hand curve; same as second .[, foot of
 upwards at the end (flattish lower curve?) .[, letter-foot on edge ${ }^{7}$ ] , low horizontal trace curving 9 .[, triangular apex 10 ], lower part of descending oblique $a$., top of upright . [, low trace on edgc

| Fr. 2 | Fr. 3 | Fr. 4 | Fr. 5 |
| :---: | :---: | :---: | :---: |
| - . . | . | . . | . |
| ] $\alpha_{\ell}[]$ [ | ]. [ | ]. $\alpha \varphi[$ | [ |
| ]. $c[\mu \mu\rceil] c v .[$ | ] ${ }_{\text {¢ }}$ оv . [ | ]кaгa[ | $\pi 0 .[$ |
| ]ко入асаv[ | $] \operatorname{cov}[$ | ] $\operatorname{cov}[$ | $\lambda \in \pi$ [ |
|  | $] \epsilon \iota \varphi[$ | . . | .] $\epsilon[$ |
| ]pıove . . [ | ]. oor |  | . |
| $], \in \nu O .[$ | . |  |  |
| ]. $\mu[$ |  |  |  |

Fr. 2 I ]., foot, gap, descending oblique joining upright at mid-height ( $\nu$ ?') . [, low traces (foot of upright? 2 ], upper right-hand arc .[, left-hand oblique and apex of $\lambda$ or $\mu$. 4 , [, upright 5 ... [, top of $\delta, \lambda$, (first half of) $\mu$, followed by shallow upper arc and high horizontal 6$]$., foot of curve (or descending oblique curved at foot) , [, high dot 7$]$., upright (?)

Fr. 3 I ]. [, traces compatible with low horizontal 2 . [, foot of ascending oblique
-hand part of top horizontal

shorter than usual; if not $\pi$, $\gamma$ joining upright or left-hand curve $\quad 3 \pi[$, its right-hand

Mr. I
$2(\mathrm{Lc}$
 ${ }_{\dot{\epsilon}} \mu \pi \varepsilon \pi \rho \eta c \mu \dot{e ́ v \eta c} \mathrm{~J}$ Greg. The papyrus prescrves the correct spelling, $-\eta \mu \varepsilon \mu$ without sigma, but it is not certair which of the two participle endings it will have had; it may have had $-\eta c$, if the first visible trace in 6 belongs to the sigma of $\dot{\mu} \mu \pi \epsilon \pi \rho \eta \mu$ év $\eta$ ]c, sec below 6 n .

3-6 carry the comments on 36 , which refer to Aristophanes' handling of the figure of Klcon in Equites. Cross-references to other plays are common in the scholiastic tradition, and ancient commentaries are no an exception. Although no mention is made of any particular play in the scholia, it may be that ${ }_{e}{ }^{2} \nu$ ( (oirc)
I $\pi \pi \in \hat{v} c \iota$ was written at some point in the papyrus, in much the same way as in 2737.

 $4-5$ Пaфגayó(pa) auvrovor possibility, but I think it less likely.
is likely that the wording of the commentary was not much different from saying after aivtov, such as ôvoudíGet, which is palaeographically possible (its first omicron suits the trace on the edge). Assuming a line of c . 40 letters, there would be more than enough room for e.g. aùrov̀ $\begin{aligned} & \text { brace }\end{aligned}$ $\pi \alpha \rho \alpha$ тò $\tau \hat{n} \phi \omega v \hat{n} \pi a] \phi \lambda \alpha \dot{\epsilon} \epsilon \omega \nu$.

This etymology is also given in the scholion on Eq. 919 (919a Jones-Wilson), Eust. 360. 28, et al. Yts occurrence in the commentary XXXV 2741 fr. iB iii 19 f . ( $=$ Eup. Fr. 192. I 35 f.) is noteworthy (commo

What follows should also refer to Kleon, adding something new to his picture. There is a remarkable
 virtually the same text.
 and the previous trace is larger than that normal between letters, equal to the width of one letter. If not accidental, I suppose this is a space left blank intentionally to distinguish the gloss from what precceded. I is

 the edge, that is the remnant of the last letter of the precccing word, allowe We could then restore $5^{-6}$ on the
lemmata are customarily distinguished from the annotation by spacing.


The insertion of the lemma which had already appeared above served to make the sequence more intelligible. This need also prompted the appearance of lemmata in lengthy marginalia, of. McNamce, op. cit. ${ }^{183}$.
 $\eta$, $\kappa$, or $\pi$; it does not secm to allow $\tau$, i.e. кd́kt $]$ Tov. It is tempting to take toivvimuov as lemma, but there is
 line 7 contains comment or paraphrase (kajkov rovionvoriteratively, we could assume that the scribe was inconsistent in leaving spaces, and take roivvvínvov as lemma; and that it was preceded by ка́ккc] rov, with $\tau$ in a form diffcrent from elsewhere (Luppe, who draws my attention to the variablc ductus of other letters, see above introd. para. 2). If this holds, we may restore $\beta\left[v_{p} \rho \bar{\eta} \mathrm{c}\right.$ (palacographically possible and not distinguished from the lemma in any way; note that scholia exist only for $\beta$ ưpçe carpâc)
$8] . \mu^{\omega}$. The letter on the edge is almost certainly omega; the raised letter should indicate a suspension of the same type as $\pi a \phi \lambda a \gamma o(\nu a)$ in 1. 4. This ] epu ( ) apparently cnds a comment on something in v. 38 or earlier. The surviving scholia provide no match, but clearly some form of $\kappa \omega \mu \omega \overline{\text { and }}$ would not be place, ct.

8-10 In the text as preserved only lemmata occupy what follows ]. $\mu^{\omega}$. Perhaps the quotation went as far as 1. ro, containing 39-4r in their entirety, without comments intervening. Otherwise the column must have been extremely wide, or the comments short. It is difficult to estimate the width more preciscly, given the irregularity of the script; in any case we do not know whether lemmata projected into the left margin (ekthesis), as thcy often do, or whether blanks were left to separate individual trimeters.
(Lemma, v. 39.) $\hat{\theta^{3}:}:$ E $\ell \theta^{3}$ codd. A palaeographic confusion rather than an itacistic mistake
9 (Lemma, v. 40.) The traces near the right edge do not seem to admit of, the beginning of o $\%_{\mu o t}$, which exeresis, although there is nothing to indicate the beginning of a comment, like a blank space as in 6 . The traces best suit the top of a triangular letter: $\alpha, \delta, \lambda$. Restore e.g. $\delta\left[\eta{ }^{\circ}{ }^{\circ} v(\right.$ (Luppc).

Io (Lemma, v. 4r.) סulictáy [au. I have restored so exempli gratia with RVF. J Greg. St.Byz. wrongly ve סuičávecu.
${ }_{2-10}$ With the help of the scholia these lincs may be reconstructed conjccturally as follows (I havc incorporated several supplements suggested by Professor Luppe):










I cannot associate what survivcs with anything in Vespae．Luppe suggests a possible reference to Aristophancs＇troubles（］ko入acav［，1．3）in connection with staging the Babylonians in the presence of the


Fr． 5
3 If $\pi$ is correctly read，$\lambda \in \pi[$ ác，which occurs at $V$ ，io5，is possible．But the other surviving letters fit no part of the surrounding text．

N．GONIS

## 4510－4521．Aristophanes

This part contains all the remaining manuscripts of extant comedies of Aristophanes that have been identified in the collection of the Egypt Exploration Society．Six come from rolls，six from codices（one of them parchment）．Most of them are to date the only ancient witnesses to the part of the plays they preserve．Published papyri of Aristophanes are listed by P．Mertens in M．S．Funghi（ed．），OUOI $\triangle I Z H \Sigma I O E$ ．Le vie della ricerca（1996）335－43；add now PDuke inv． 643 （ed．L．P．Smith，APF 42 （r996） 55 ff．；cf．W．Luppe，APF 43 （1997）7f．）．

It has often been noticed that the majority of the papyri of Aristophanes derive from the Byzantine period．This group presents six pieces from the fourth，fifth and／or the sixth century，but the other six come from the second and third centuries $A D$ ． Insomuch as only five Aristophanic papyri from before the fourth century have been published hitherto，these figures may appear remarkable，but they are in line with the earlier known data concerning Oxyrhynchus：excluding commentaries，Mertens lists four Oxyrhynchite papyri from no later than the third century，and five from the fifth century．

Text．These papyri offer a number of interesting readings．
（i）Among readings which are new，a few confirm modern conjectures．
Acharnenses $\quad 60 \pi \rho v \tau \alpha] \cup \in \cup \eta \tau[\epsilon 4510$ with Meineke（but probably false） ${ }^{171} \delta_{10 c \eta]} \mu[\iota] a{ }^{\circ} c[\tau \iota 4510$ with Elmsley
$298 \mu o$ ］$\iota \varphi 4510$ with Hermann
$323 \tau$ apa 4510 with Elmsley
$325 \delta \eta \xi \circ \mu \mu^{\prime}$ ap＇v $\mu,{ }^{\prime} \mathbf{4 5 1 0}$ with Bentley
Aves I 328 Bpaঠvc $€[c \tau \iota \tau \iota c 4515$ with Bentley
1669 єıc 4516 with van Leeuwen
$\phi \rho a \tau \epsilon \rho a c 4516$ with Dindorf
167 I aıкє८av 4516 with Lenting
1672 катастךсас 4516 with Hirschig
Some others would at least merit consideration．
Vespae 1081 $\xi v v \delta o \rho \in \iota 4513$
IIO2 то入入ахך 4513

## Pax

Apes
Plutus
The remainder can be dismissed as corruptions or careless slips（the second reading that generally accepted by editors）．

Acharnenses $\quad 330 \in \rho \xi \alpha c$ 4510：$\epsilon^{\eta} \rho \xi \alpha c$
$332 \theta^{\prime}$ 4510：$\delta$
Vespae $\quad 1078 \omega \phi \in \lambda \eta<\alpha \nu]$ Tєc 4513：$\omega$ © $\phi \in \lambda \hat{\eta} c a \nu$ èv
1081 $\xi v[\nu \delta \rho \alpha \mu о \nu \tau] \epsilon \subset$ 4513：є̇к $\delta \rho а \mu$ о́vтєс
$1083 \pi \alpha \nu$ 4513：$\pi \alpha \rho^{3}$
го86 $\mu]$ а $\chi \in с \alpha[с \theta \alpha \iota$ 4513：$\mu \alpha ́ \chi \in \subset \theta \alpha$,

Pax
$238 \iota \theta_{l} \nu v \nu$ 4514：$\iota \theta_{\iota} \delta \eta े$
${ }_{1} 327$ тоит $\omega[\nu$ 4515：то仑̂тоข
$604 \delta \epsilon \iota y o v$ 4517：$\delta \in i v$
642 १ $\mu \mathrm{c}$ 4517：$\nu \dot{\omega}$
Ranae
648 om． 4520

（for 715 and the extra line between $967-9$ see notes ad loc．）．
（ii）More often，the agreement of the papyri with the medieval tradition，or part of it，may be significant．Thus in a number of places they confirm the antiquity of a number of disputed readings．This of course does not suffice to turn the scales in favour f the transmitted readings；once again we see that some degree of corruption must be sited early in the transmission of the text．As regards the issue of the Variationsfreiheiten， he new evidence shows it to be present in the Roman period．

## Acharnenses

29I $\epsilon \pi \epsilon \iota \tau a$ 4510：$\epsilon i \neq \alpha$ edd．
293 оук ъстє 4510：ŋ̀кои́сат’ edd．
301 кататє $\epsilon \omega$ 4510：$\tau \epsilon \mu \hat{\omega}$ edd．
$302 \pi \circ ̣ \tau^{\prime}$ єс 4510：$\pi \underset{o}{ } \tau^{\prime}$ sive éc del．edd．
Pax

$\delta \rho a \chi \mu \hat{\omega} \nu$ susp．edd．
240 $\tau \iota \delta^{\prime}$ 4514：$\tau i$ edd．
Aves
$325 \pi \tau \epsilon \rho \omega \nu$ 4515：$\pi \tau \epsilon \rho \dot{\gamma} \gamma \omega \nu$ edd．
${ }^{1} 35^{8} \gamma \underset{\sim}{[4515:} \tau \alpha{ }^{\alpha} \rho \alpha$ edd．
Ranae
592 lacunam post $\dot{\alpha} \nu \alpha \nu \in \alpha \dot{\zeta} \epsilon \iota \nu$ fortasse habet 4517
597 ＇cтаl om． 4517
645 ov $\mu \alpha \Delta \iota^{\prime}$ ：ov $\delta^{\prime} є \mu о \iota$ бокєє 4517：alii alia
In a few cases the reading of the papyrus recurs not in the earlier manuscripts but in some of the recentiores．This tends to confirm that such late readings，right or wrong， should not automatically be regarded as Byzantine conjectures，but may represent an older tradition of which，by accident，we have no earlier evidence．

Vespae

Aves
 ro85 $\epsilon \omega \subset \alpha[\mu \epsilon \subset \theta \alpha 4513$ with $A n$. Ox. I 446.4-5 $(-\mu \epsilon \theta \alpha)$
 1670 $\tau o v \tau^{\prime} 4516$ with E; $\delta \hat{\eta} \tau^{\prime} \Gamma \mathrm{U} q: \delta \hat{\eta} \tau \alpha \tau^{\prime} \mathrm{RVA}$

In places where the medieval tradition is divided the new texts predictably do no side systematically with any particular manuscript or family. In any case, each Aristophanic play has a different textual tradition, and should be treated separately from the rest. Accordingly, statistical data of coincidences with this or that branch of the tradition would be of no use. An evaluation of the textual importance of each papyrus can be found in the individual introductions. A few more general issues wil be addressed here

The first assessment of the papyri of Aristophanes was attempted by Grenfell at a time when only twelve papyri of nine known comedies had been published: 'On the whole the papyri of Aristophanes are not very accurate and are more remarkable for their agreements with the ordinary text where the correctness of it has been suspected than for new readings. ... Quite a number of small corrections ... mainly on metrical grounds, are confirmed' ( $\mathcal{H} H S 39$ (1919) 22). Eighty years later, and with the number of Aristophanes papyri increased fourfold, the gist of Grenfell's conclusions does not require essential alteration. The papyri of Aristophanes have not yielded impressive returns in terms of new readings.

In what was the first comprehensive investigation of the bearing of the papyri on the Aristophanic text Pasquali argued that in the fifth century the number of the variants began to decrease, but he did not doubt that a part of them goes back to the period before the first critical edition of Aristophanes (see Storia della tradizione e critica del testo ( $1952^{2}$ ) I 99). Of the papyri available to Pasquali all but two dated from the fifth century or later. In the light of the publication of more papyri from earlier centuries, his views need to be modified. The fifth century can no longer be considered as a watershed in the history of the text of Aristophanes: second century papyri attest no more variants than Byzantine papyri. If a reduction of the number of variants in circulation started at a certain stage, this cannot have taken place later than the first century AD.

The second of Pasquali's statements is not incompatible with a hypothesis recently formulated by Dover: 'one, and only one, copy of Frogs (containing major errors) was available to the first generation of scholars at Alexandria ... all subsequent copies of the play whatsoever were exclusively derived from that copy' (Aristophanes Frogs (1993) 86). So far as I am aware, this theory has not been tested for other plays, but, if correct, its repercussions for Aristophanic textual criticism are obvious. The new evidence does not invalidate Dover's hypothesis; in fact, if the lyric parts suspected of corruption are corrupt, his theory is reinforced.

There is no comprehensive history of the text of Aristophanes, but individual plays have been served well by the editions that have appeared over the last three decades
(cited below in the introductions to the editions of the papyri of each play). With regard to general issues the most useful contributions are by T. Gelzer, $R E$ Suppl. XII (r970) 1548 ff ., and Dover, Text. A brief summary of earlier views on the history of the text and the question of the archetype is given in G. B. Alberti, Problemi di critica testuale (1979) 20 f. (the chapter on Aristophanes in H. Hunger (ed.), Geschichte der Textiüberlieferung I (196I) is now out of date). I should also mention M. Pohlenz, NAWG (1952) 95 ff ., for some interesting views on the early history of the text, and, for the Triklinian recension N. G. Wilson, CQ ns 12 (1962) 32 ff.

In the introduction to each play I indicate the sources from which the readings of the medieval manuscripts are taken. I have myself collated R and V from the facsimiles, and $L$ from the original.

Colometry. Four of the papyri $(\mathbf{4 5 1 0}, \mathbf{4 5 1 3}, 4516,4517)$ offer lyric parts. It comes as no surprise that their colometry, despite occasional deviations, is virtually identical with that transmitted by the medieval manuscripts, and accords with the metrical analyses found in the scholia vetera. ( 4513 is a case apart; the eccentric line-division does not seem to have its origin in any metrical principles, but probably in a certain view about the general mise en page.) This has been repeatedly observed with regard to the papyri of Aristophanes, see most recently Dover, Aristophanes Frogs 90, and L. P. E. Parker, The Songs of Aristophanes (1997) 98. It is an easy assumption that there has been only one colometry for the lyrics of Aristophanes from Roman times onwards, ${ }^{1}$ that customarily attributed to Heliodorus (cf. below 4510 introd.). But, as Parker has pointed out, it is perhaps simplistic to maintain that the Alexandrians 'worked on a sound text, that their colometry was reverently preserved for the rest of antiquity, to be described by Heliodorus, and to survive, in however mutilated a form, in the papyri and medieval MSS' (op. cit. 1o6).

Annotation. 4510, 4514, 4519, 4520, and 4521 bear marginalia, in all cases but one brief. They mostly contain glossographic and factual information. Of special significance are 4510 and 4521, which provide the earliest examples of annotated papyri of Aristophanes (second century). 4521 makes it possible to trace affinities between these marginalia and the medieval scholia back to the second century AD; up until now, discussion has focused on texts from the fourth century onwards, of. G. Zuntz, Die Aristophanes-Scholien der Papyri ( $1975^{2}$ ) 28 f . On Aristophanic exegesis in the papyri one may also consult the brief account by H. Maehler in Entretiens Hardt 40 (1994) 124 ff .

I am grateful to Dr. R. A. Coles, Prof. E. W. Handley, Dr. J. R. Rea, Mr. N. G Wilson, and especially Prof. P. J. Parsons, my supervisor, for advice and criticism.
${ }^{1}$ It has been argued that this is also the case with the tragedians, see T. Fleming, E. G. Kopff, SlFC (r992) 760, echoing G. Zuntz, An Inquiry into the Transmission of the Plays of Euribides (1975) 31 If. and W. S. Barrett, Euripides Hippolytos (1964) 84 ff. However, studies of the issue in two plays of Euripides, J. M. Bremer, of Euribides' Orestes (1991) I 31 ff, have shown a lack of unanimity in some parts of the tradition.

In addition to the usual abbreviations, the following shortened references have been used:

Dover, Text $=$ K. J. Dover, 'Explorations in the History of the Text of Aristophanes', The Greeks and their Legacy (r988) 223 ff.
$G B E B P=\mathrm{G}$. Cavallo, H. Maehler, Greek Bookhands of the Early Byzantine Period $=$ BICS Suppl. 47 (1987)
$G L H=$ C. H. Roberts, Greek Literary Hands 350 B. G.-A.D. 400 (1956)
$G M A W^{2}=$ E. G. Turner, Greek Manuscripts of the Ancient World (2nd edition revised and enlarged. Edited by P. J. Parsons.) $=$ BICS Suppl. 46 (1987)

McNamee, $M C=\mathrm{K}$. McNamee, Marginalia and Commentaries in Greek Literary Papyri (Diss. Duke Univ. 1977)

Turner, Typology = E. G. Turner, The Typology of the Early Codex (1977)
4510. Aristophanes, Acharnenses 55-60, 165-80, 234-40, 278-83, 291-308, $3^{16-35}, 345-7,380-5,4{ }^{1} 7-9,506-9,539-42,655-8,695-704,822-5$

## 88/332

Fr. $79.4 \times 9.4 \mathrm{~cm}$
Second century
Twenty three fragments of a roll brought together on the basis of the handwriting Most of them can be identified as containing portions of the Acharnenses; a few scraps (frr. 16-23) remain unplaced, and some may not belong to the same manuscript. The extant upper margin measures 1.4 cm in fr. 10; frr. 7 and I2 preserve a lower margin of 1.4 cm . Of the intercolumnium 0.8 cm survives in fr .5 . The writing is along the fibres; there are scanty ink traces on the backs of one or two pieces, not certainly writing.

The reconstruction of the original dimensions of the roll is not easy. 29 I (probably) 417,821 (possibly) come from column tops; 335,542, 704 (possibly) are at column feet. The 45 lines between 29I (fr. 6) and 335 (fr. 7) could have been contained in (i) I column or (ii) 2 columns of $22 / 23$ lines. $4^{17}$ (fr. 10) to 542 (fr. $\cdot 12$ ) is 126 verses of modern text (but note that 457 is extra metrum and $490-5$ is lyric); one may think of 3 columns of 42 verses, but also $5 \times 24 / 25$ or $6 \times 21.542$ (fr. 12) to 704 (fr. I4) has too many uncertainties over lyric to be useful.

The text is written in a small rounded hand, neat, but not properly formal. Only the stems of $\phi$ and $\psi$ violate the overall bilinear impression. Finials (most frequently blobs, but also left-facing serifs and right-facing hooks) are attached to the feet and tops of most uprights; fine horizontals contrast with thickish uprights and obliques. Notable letter-forms include: $\epsilon$ and $c$ with their top curves often added separately, the latter also tending to fall over; $v$ with a sometimes concave stem; $\psi$ with its arms forming a large V . This kind of hand is usually assigned to the second century. It shares many common features with PSI IX ro9r (Norsa, Scrittura letteraria Tav. rgc), assigned to the i/ii century, but the latter has a more formal appearance and is probably earlier than 4510. Also comparable are XXIV 2388 (ii), and PBodmer XXVII (ii).

Diacritical marks have been used fairly frequently, and are probably the responsibility of the scribe of the main text. There is a trace of a paragraphos (384-5) and a dicolon (346), and we may suppose that they were regularly used for signalling speaker changes (the paragraphos in 384-5 separates dialogue from lyric); in all probability there is also a nota personae in 385 . Elision is marked by apostrophes six times $(296,302$, $325,332,333,335)$, but is made tacitly twice $(323,33 \mathrm{I})$, while in two other cases (292, 325 ) it is uncertain whether it was marked or not. Prodelision (59, 171, 330) is effected, but not signalled. A rough breathing is used to distinguish the relative pronoun ovic from the word-ending ouc which precedes (327). Diaereses (inorganic) often stand over initial $\iota$ and $v$. Iota adscript is twice added in the dative singular (317,704), and omitted twice ( 170 and 172 , both times in the same word and not at word-end). There are scanty remains of cursive writing, apparently annotation, in top and right-hand margins. Since no side margins survive in most fragments, it is impossible to guess the extent of the annotation.

This is the oldest manuscript of the play to appear. The text offered is interesting. It is free from certain errors present in all later mss., substantiates some modern corrections (171, 298,323,325), but also yields three new variants which cannot be upheld ( $60,330,332$ ). As regards some notoriously suspect readings (all in lyric passages), it confirms the antiquity of the transmitted text. This is true of the Berlin codex too, but $\mathbf{4 5 1 0}$ is at least three centuries earlier. Such an agreement in error may be thought to imply that the second century text of the play did not essentially diverge from that of the later mss. in any of these disputed points. When the text in its corrupt form replaced the original in all papyri circulating in the first centuries AD cannot be ascertained. I am not sure how much weight can be attached to the metrical scholion on 285 ff ., according to which the chorus responds to Dikaiopolis with a series of paeonic cola. In the text transmitted by this papyrus, as well as the medieval mss., paeonic cola are not always recognisable, and some passages are plainly unmetrical. It might be thought that the exemplar which served as a basis for the scholion was free of error. The metrical analyses preserved in the scholia are commonly believed to go back to Heliodorus, a metrician of the early Imperial age; could it be that Heliodorus used a copy with a text more or less different from the present? But the scholion contains no information about its source; and, as Parker has recently argued, 'it would be wrong to assume that all the $\Sigma$ vet. were compiled from the work of a single metrician' (The Songs of Aristophanes 97).

Frr. 5, 6, 8 and ${ }^{4} 4$ preserve lyric parts. Only the middle parts of the verses survive, but, if my reconstructions hold, it may be urged that the arrangement of the verses in the papyrus generally tallies with the metrical analyses of the scholia, R and most of the more recent mss. Spacing suggests that indentation (at varying levels) was employed.

The only textual overlap with a previously published papyrus is between fr. 15 and BKT IX 105; there are no points of divergence.

An evaluation of the history of the text of the play is given by E. Cary in HSCP I 8 ( $\mathrm{rg07}$ ) 157 ff . [ = Cary]. Elliott in his edition offers a detailed report of mss. readings (except for L and $\mathrm{Vvi}^{7}$, which became known only later). I have often made use of Cary's and Sommerstein's sigla denoting hyparchetypes; $a, c, q, j$, and $e$ stand for the hyparchetypes of $\mathrm{A} \Gamma \mathrm{E}, \mathrm{CVp}_{3}, \mathrm{BVp} 2 \mathrm{HLVVI}_{7}, q c$ and the agreement of $\Gamma^{2} \mathrm{E}^{2}$ respectively.

$\mu \eta \pi] \omega \gamma \in[$

$$
\begin{aligned}
& \epsilon \kappa] \phi v[\gamma \epsilon \omega v \\
& \delta \epsilon v] \rho \rho[ \\
& \omega \subset \phi] \rho .[\nu \tau o
\end{aligned}
$$

$$
\gamma] \epsilon \rho[o \nu \tau \in c
$$

 high horizontal with a medial trace below, faintly suggesting an upright) suit either tau or pi. ckaraßaideite is original où karaßaגeįre by a graphic confusion in the minuscule, and thus think it unlikely that the papyrus had àтоßалєітє.
${ }^{167} \pi \epsilon \rho \iota \epsilon\left[\delta \delta \epsilon \theta^{\prime}\right.$ : so codd. plerique: $\pi \epsilon \rho i{ }^{2} \delta \epsilon \theta^{\prime}$ R.
 confirms Elmsley's correction, which is required by usage, cf. Kühncr-Blass, Grammatik I 243 (cf. also Pax 873 , Av. 639, etc.).
 same reading as R , which is correct. The corruption that we find in ac occurred by transposition, and Triklinios tried to cure it by changing word-order.

 II 32, but it cannot have been used by Aristophanes. (Athenaeus transmits it in Antiph. fr. 145.6 (emended by Elmsley), and Priscian in Eupol. fr. 7.)

## Fr. 4

${ }^{2} 35$
$\zeta \eta 7] \epsilon v[$
] $\gamma \eta!{ }^{[ }$
$\beta] \alpha \lambda \lambda[\omega \nu$
] [
$\eta \kappa \sigma] \cup с а[\tau \epsilon$
$a v \tau o]$ © $\epsilon \subset \tau[\iota \nu$
240
] $\theta u c[$ [ $\omega v$

237 Mss. givc $\epsilon \dot{\jmath} \phi \eta \mu \epsilon i \tau \epsilon \in \dot{\jmath} \phi \eta \mu \epsilon \hat{i} \tau \epsilon$, usually in eisthesis. Spacing suggests that if the double $\epsilon \hat{i} \phi \eta \mu \epsilon \hat{\epsilon} \tau \epsilon$ was centred on 236 , it would have started after the right-hand break.

## Fr． 5

］．．$v^{a \ldots}$ ．$[$
｜крє $\mu \eta \subset \epsilon \tau \alpha \iota$ ：
］го．єстірочтос ．［
1．$\lambda \epsilon \beta a \lambda \lambda \epsilon \beta a \lambda \lambda \epsilon \quad$［
］．$\mu \iota \alpha \rho o \nu \quad[$
］．．．．［

$\eta \delta$ астıс єv т $\tau \iota \phi \epsilon / \alpha \alpha \omega \iota \mid \kappa \rho \epsilon \mu \eta \subset \epsilon \tau \alpha \iota$ ovtoc av］тос єстเข оvтос $\beta a \lambda \lambda \epsilon \beta] \alpha \lambda \lambda \epsilon \beta a \lambda \lambda \epsilon \beta a \lambda \lambda \epsilon$ $\pi \alpha \iota \epsilon \pi \alpha \iota \epsilon \tau \circ]$ ！$\mu \iota a \rho o v$ ov $\beta$ алєıc ov $\beta$ ］adєєє

Colometry．（Here as elscwhere the articulated transcript aims at presenting an approximate picture of the original layout of the left－hand part of the column，as well as the colon divisions．The supplements derive from Coulon．）In $280-3$ the division of the papyrus is identical with that of R ．No ancient metrical scholia 278 mrg．What nemains may be part of a comment on $\tau \rho \nu \beta \lambda \iota o v$, which is glossed in the various lexic and the scholia－but not in the scholia on 278 ．However，none of the known glosses on $\tau p \dot{\beta} \beta \lambda \iota o v$ begins witl a．The traces could be rcconciled with apte，which（in the form àvri rov̀，abbreviated or not）often introducc glosses，cf． 4521694 n．But I would not exclude that this continues a note that started in the previous line note that in the byzantine scholia краima $\lambda \eta$ in 277 is annotated．
${ }^{2} 279 \mathrm{kp}$
279 mrg ．The marginal note may explain $\phi$ e $\psi \dot{\alpha} \lambda \omega$ ，which is glossed in the commentary VI 85678 （on
 be that the initial sisigma of the note was the first letter of $c \pi \nu \nu \theta \eta \eta \rho t$（or $c \pi u v \theta \eta$ p：glosses are often in th nominative）．Howcver，the sense here is figurative，and the literal meaning would not be of much help．

I cannot sce hew it lambdas．A dot distinguishable below is probably stray ink．

Fr． 6

> ]. [
> ] $a . \nu[$
> ]
> ] $\subset \in \pi \in \iota_{\text {. . }}$
> ]. $\pi . \beta \lambda \epsilon$.
> ]оикıст . [
> ]evar. [
> ] vс $\eta \tau^{\prime} \alpha[$
> ]. $\mu a$. [
> ]є. $\lambda$. .

291
$\subset \pi \epsilon \iota \subset \alpha \mu \epsilon \nu o$ ］с $\epsilon \pi \epsilon \iota \tau \alpha$［ $\delta v \nu a c a \imath$
$\nu v \nu \pi \rho \circ c \epsilon] \mu \quad \alpha \pi \circ \beta \lambda \epsilon \pi[\epsilon \iota \nu$
avтı $\delta ’ \omega \nu \in c \pi \epsilon \iota c a \mu \eta \nu]$ ovк ıcтє［
$\operatorname{cov} \gamma \alpha \kappa о v с, \mu] \epsilon \nu$ amo $[\lambda \epsilon \iota \kappa \alpha \tau \alpha$
сє $\chi \omega с о \mu \epsilon \nu \tau о]_{\iota c} \lambda_{\ell} \theta_{0}$ ！$[\varsigma$
$\left.\mu \eta \delta \alpha \mu \omega \subset \pi \rho \iota \nu \alpha \nu \gamma^{\prime} \alpha \kappa o\right] v \subset \eta \tau^{\prime} \alpha\left[\lambda \lambda^{3}\right.$
ovк ауас $\chi \eta \subset$ ］opa！［ $\mu \eta \delta \epsilon$
$\lambda \epsilon \gamma \epsilon \mu \circ] \iota$ сv $\lambda<\gamma[o v$
］$\mu \epsilon \mu \epsilon$ с сккас．［
｜сєтьца入入ov［
1．．$\tau \alpha$＇$\epsilon \mu . \tau$ ．．$[$

］．$\nu \tau о с о v к$ ］$\omega \subset \iota \nu a \lambda \lambda$ ．

## ］к $\omega$ ． асєк［

 ］$\omega$ рако［$$
\text { ]. } . v[] .[
$$

］．［ ］c．［
$\nu o]$ с $\epsilon \tau \iota \mu a \lambda \lambda o v[o v \epsilon$ $\gamma \omega]$ кататє $\mu \omega$ тоוc $[\iota v \iota \pi \pi \epsilon v$ cl］$\pi о \tau^{\prime} \in \subset \kappa a \tau \tau v[\mu a \tau a$ cov $\delta^{\prime}$ єүш doyouc $\lambda \epsilon$ ］yơтос оик［
 $\omega \gamma a \theta$ oı тovc $\mu \epsilon \nu \Lambda \alpha] \kappa \omega \nu \alpha c ~ \epsilon \kappa[\pi о \delta \omega \nu$ $\left.\tau \omega \nu \delta^{\prime} \epsilon \mu \omega \nu<\pi о \nu \delta\right] \omega \nu$ ако［ $\nu \subset \alpha \tau^{\prime}$ $\pi \omega c \delta \epsilon \gamma^{\prime}$ av ка入 $\left.\omega c \lambda \epsilon \gamma\right]$ ouc av $\quad[\epsilon i] \pi$［ $[\epsilon \rho$ oıcıv ovtє $\beta \omega \mu \circ<$ ov $] \tau[\epsilon \pi \iota] \subset \tau[$ lc
mrg．There does not seem to be any（main）text written above 291，since，however colometrised，some letters from 290 would have been present．I suppose the notes were written in the top margin．Their impor escapes me．
 cspecially in post－classical Greck．eito．looks like the result of a Byzantine emendation（Cary I82）．
$291-22284$ a speaks or a sequence or pacons to Dikaiopolis in the same metrical scheme，requires sequence of four cretics or paeons．The text of the antistrophic 340 is unassailable：$\dot{\omega} c ~ \tau o \delta \delta \epsilon ~ \tau o ̀ ~ \lambda ̀ \alpha p \kappa i \delta o v ~ o u ̀ ~$ sequence of four cretics or paeons．The text of the antistrophic 340 is unassalable：
$\pi \rho o \delta \dot{\delta} \dot{c} c u$
$\pi o \tau$
（ 2 p2cr） ．But in mss．other than $q$ the scansion of $291^{-2}$ causes difficulties．In 292 the presence of $\nu \hat{v} v$ in the mss．（it is omitted in $q$ for purposes of restoring the metre）disturbs the metrc．vôv is also contextually unnecessary（so also $\Sigma$ vet．on 300 ）；it has been thought to be an carly interpolation，due to someone who took $\epsilon_{\pi \in \iota \tau a}$（or $\epsilon i \tau a$ ）as temporal．If we read $\epsilon i \tau a$ and remove $\nu \hat{v} v$ ，the metrical corrcspondence is restorcd．Although $\nu \hat{\nu} \nu$ does not survive in our fragment，considerations of space suggest that it was present in the papyrus．The last sigma of cтeєccapevoc is vertically aligned with the mu of $\epsilon \mu . \mathrm{R}$ and most other mss． divide after $\delta$ ofvacat，an attempt to match word－with colon－end．If this division was followed in the papyrus， $\nu \hat{\nu}$ ．With a division after $\delta \nu v a$ there is no space for $\nu v v$ ，but then the mu of $\epsilon \mu$ would have appeared further to the left．
 current in the Roman period．The reading of $\mathrm{A} I$ gives good sense，but stands in hiatus with the following
 ＂ccat＇is not a possible form，at least in Attic，and in＂ccre $\tau^{\prime}$ the particle makes no sense．＂cre $\gamma$＇has mot with some approval，cf．B．Zimmermann，Untersuchungen zur Form und dramatischen Technik der aristophanischen Komödien i （1984） 39 f．Of course the last two readings may themsclves be conjectures to avoid the hiatus（Cary 182 ，
Coulon
Essoi sur la methode de la critioue conjecturale appliquee au texte d＇Aristophane（1933）48），but it would be hazardous to rule out the possibility that they are substantive variants．Most cditors have adopted more
 18 （r880）i2 tried to solve the problem by articulating ozk icré＇（question）；this use of the plural verbal
 $\pi \epsilon \rho \kappa к а \lambda u \pi \tau \in a($ also $A c h .394$, Lys．122，and clsewhere），but the question oìк icté＇seems contextually less
 with its extra $\alpha$ ，perhaps incorporates a clarification of ICTETAAAAKOYCATE，or it is just a confusion otherwise the $\tau^{\prime}$ is dropped［in $\left.\mathrm{A} \Gamma\right]$ ；read as if $\tau(\xi)\left[\right.$ in $\left.\Gamma^{\mathrm{s}} \mathrm{E} c\right]$ ；read as $\gamma(\epsilon)[$ in $q]$＇，

294 акоисонеノ codd．plerique：акоог
deliberative questions can only be expressed by the subjunctive. The other two readings are metrical emendations (Cary 182).
$298 \mu$ olt cy: cú $\mu o t$ R: cv̀ om. ac: $\delta \grave{\eta}$ cò $q$. The papyrus has the correct word order, as restored by Hermann, De Metris 19r. The reading of $q$ is a metrical restoration (Cary 18 r ).


 (Cary 182).
ec: so codd. plerique: om. $q$. The omission was probably made for metrical purposes.
 is unmetrical, although the sense is clear. $\epsilon \gamma \omega$, кaтaт $\epsilon \mu \omega$, $\tau \hat{\imath} c v, \pi o \tau$ and $\epsilon$ c have been much disputed, but
none of the cmendations proposed is entircly satisfactory (the most recent discussions are by Zimmermann, op. cit. 40 , and Parker ${ }_{1} 30 \mathrm{ff}$.). The papyrus shows that the main elements of the transmitted text were already in place in the second century. It attests кaтaтє $\mu \hat{\omega}$, $\tau 0 \hat{i} c$ or $\tau 0 \hat{\imath} c v$, and $\pi o \tau^{\prime}{ }^{\prime} c ;$; it may or may not have had $\dot{\epsilon} \gamma \omega$ : the spacing is indecisive, but since $e^{k} \gamma \omega$ is transmitted by all mss., with which the papyrus shares all the questionable readings, I see no reason why its presence here should be precluded

Fr. 7
].[...].[
$\tau] \omega \iota \pi \lambda \eta \theta[\epsilon \iota$
] $\epsilon \varnothing а \lambda \eta \nu[$
$]$ ไı $\theta \omega \nu \omega \delta[\eta \mu \circ \tau \alpha \iota$
] чovтov є८ фо! $[\nu \iota \kappa \iota \delta a$
$\theta v \mu a] \lambda \omega \psi \in \pi \epsilon \zeta \epsilon \subset \epsilon \nu[$
є] $\tau \epsilon \circ \nu \omega \chi \alpha \rho \nu \eta[\iota \delta \alpha \iota$
$\delta \epsilon \iota] \nu \alpha \tau$ а $\rho a \pi \epsilon \iota c o \mu \alpha \iota$
$\mu] \eta \delta а \mu \omega с ~ \omega \chi а \rho \nu \iota к о[\iota$
] $\overline{\eta \xi о \mu ’ ~ а \rho ~ \ddot{\sim} \mu \alpha c ~ є \gamma \omega ~}$
$\tau] \omega v \phi_{i} \lambda \omega \nu$ vove $\phi_{\nu} \lambda[$ [ $\alpha \tau \tau v c$ o $\mu \eta \rho]$ ovc $b v c a \pi o[c] \phi a \xi[\omega] \quad \lambda \alpha[\beta \omega \nu$ $\tau \circ] \varphi \tau^{\prime} \alpha \pi[\epsilon i] \lambda \epsilon \iota \tau 0 v \pi \sigma c \alpha[\nu \dot{\delta} \rho \in \subset$
A $\alpha a \rho \nu l]$ Kolcı $\eta \mu \iota y \mu \omega \nu \in \chi \in[\iota$ $\pi \alpha \rho o \nu \tau] \omega \nu \in \nu \delta o \nu \in \rho \xi \alpha c \quad \eta \pi[\iota$
$] \beta o[v] \lambda \epsilon c \theta$ є $\omega \omega$ रa $\rho$ тоvтovı $\delta[\iota \alpha \phi \theta \epsilon \rho \omega$
$] \theta^{\prime} \ddot{\nu} \mu \omega \nu \tau\left[\begin{array}{lll}\alpha & \chi^{\prime} & \text { o }\end{array}\right] \tau \iota<\alpha \nu \theta \rho \alpha \kappa \omega[\nu$
$\alpha \pi \omega]$ गо $\mu \in c \theta^{\prime}[$ o $\lambda \alpha \rho] \kappa о с \delta \eta \mu о \tau \eta[c$
$\delta] \rho \alpha с \eta \subset$ о $[\mu \epsilon] \lambda[\lambda] \epsilon \iota \subset \mu \eta \delta a \mu \omega[c$
$\alpha \pi о \kappa] \tau \epsilon \nu \omega \kappa \epsilon \kappa[\rho \alpha] \chi \theta^{\prime} \quad \epsilon \gamma \omega$ $\gamma \underset{\sim}{\alpha} \rho$ ov ${ }^{[\kappa}$
(foot)

316 The traces are too exiguous to allow a match with the received text.
318 кe $\phi \alpha \lambda \eta v$ : so codd. Earlier cditors felt uneasy with the 'dactyl' in the fifth foot of the trochaic tetrameter, and regarded the text as corrupt. But this metrical phenomenon is not unparalleled (but the secure parallels are very few), as was pointed out first by U. v. Wilamowitz, Isyllos pon Eppidaurys 7 ff. On the secure paral.W. Handley, Dyskolos 71 (with bibliography); MacDowell on Wasps 407, 496; Sandbach on M. Samia 73 1; M. L. West, Greek Metre 92.

319 w: so coda.. ot suda ( $\kappa 682, \phi 788$ ).
320 ec; so codd.: $\epsilon c$ escla (ibid.). The agreement betwcen all representatives of the tradition both here and in 302 may suggest that $\epsilon c$ was the commonest reading in antiquity. Modern views recommend the
of $\epsilon i c$, exccpt if $\varepsilon c$ is metrically required $(\mathbf{4 5 1 6} \mathrm{I} 66 \mathrm{~g}$ n.). Emsley and most subsequent editors read $e i c$.
 apparently derivative.
 to substantiate Elmsley's emcndation to qâpa (roo äpa), which has been adopted by most editors. J. C. B. Lowe, Glotta 51 (1973) 34 ff., esp. 36 and 40 ff, defended the mss. reading, pointing out that $y^{\prime}$ ¿pa is exclamatory, and contextually more appropriate than tápa. The majority of the manuscripts offrer gamma
instead of tau not only here, but also in most other emended passages. Tau and gamma could bo easily instead of tau not ouscule. Therc are two more papyri bearing text emended by Elmsley on the same grounds:
 with $A v$. 1358. This papyrus attests that the confusion had already started in antiquity.

The scribe wrote no elision mark. I would think that the omission is accidental rather than an indication that rapa was taken to be a case of crasis.
 ${ }^{4} \rho^{\prime}{ }^{\prime} R$. The papyrus presents essentially the correct reading, which was first restored by Bentley. In comparison


 Grammatik I 237 f f., West, Greek Melre 10.

329 ? $\eta$ v. so codd.
330 $\epsilon \rho \xi a c:$ : $\epsilon p \xi a c j$ : elpgac codd. rell. $\mathrm{S} \sum$ edd. It is unlikely that the reading offcred by the papyrus is genuine. Eppac is an epic-ionic corm, and the taken to reflect the archaistic tendes of the scribe (or his knowledge of Homer).
$33^{2} \theta^{\prime}: \delta^{\prime}$ codd. The new reading is probably inferior to that already known. Alchough there are examples of single $\tau \epsilon$ connecting sentences, see J. D. Denniston, Greek Particles ${ }^{2} 497$ II., $\delta \epsilon$ is better represcnted in this position as a connective, and is also supported by Lys. III4. Of course, $\tau \epsilon$ is frequently found as a varia lectio for $\delta \epsilon$ (and vice-versa) in the manuscripts. Compare Ach. ${ }^{81}$, where the Berlin codex offers $\boldsymbol{\text { o }}{ }^{\circ} \theta^{\prime}$, while the tradition unanimously has $\tau$ ó $\delta^{\circ}$; also E. Or. 1627 , where one papyrus and several recentiones give $\delta$ instcad of (the correct) $\theta^{\prime}$ transmitted by all the vetustiores. (I do not think that this is a case of the not particularly (requen
i 97.
 forms or misspellings, arc unmetrical.

Fr. 8

344 ]. [
345 ] фасıv[
]. $c$ [
$\alpha \lambda \lambda \alpha \mu \eta \mu \circ \iota \pi \rho \circ] \phi \alpha c \iota \nu$
$\alpha \lambda \lambda \alpha$ к $\alpha \tau \alpha \theta$ ov то $\beta \epsilon \lambda]$ oс

| 346 | $] a$ | $[$ |
| :--- | :--- | :--- |

Colometry. The divisions in the papyrus are the same as in R. But 345 is evidently inset relative to the next threc lincs; the reason escapes me.
344 I. 1 If ext. I

347 I am not able to restore any text here, since there is no way of determining the extent of the and on the same scalc as in R , that is scven letters in, here we must have one or two of the last letters of àvacelen,

## Fr. 9

$380 \quad \delta]_{\iota \epsilon[\beta a \lambda \lambda \epsilon}$
как [ขкдоворєь
$\alpha \pi \omega[\lambda о \mu \eta \nu$
$\nu v \nu o[v \nu$
$\epsilon \nu \subset \kappa \in[$ vacac $\theta a \iota$
385 ]. [.

384 This verse, repeated as 436 , has been suspected, and Valckenaer deleted it. Most editors have pescrved 384, and bracketed 436. H. W. Miller, AfP 65 (1944) 29 f . defends the authenticity of both verses. 385 The traccs do not match $\tau u$, the first two letters of 385 , and best suit $\chi$. After that no trace of ink
 Presumably $\chi$ represcnts $X$ (opóc), whcre $\chi^{0}$ might have been expected, as in $\chi^{0}{ }^{\circ}{ }^{\circ} \tau^{0}$ for the chorus of Satyrs
in IX 1074 (S. Ichneutae), cf. GMAW similar to that in R , with paragraphos, marking the end of the speech, nota personae $(\mathrm{X}$ ), and $\tau \imath$ indented. (I owe the clarification of this point to Professor Handley).
Fr. 10
Fr. II
Top

| $\alpha] v \tau \eta$ [ | 506 | сv $\mu \mu] a \chi \bigcirc[\iota$ |
| :---: | :---: | :---: |
| $] \pi \circ$ [ $\iota \alpha$ |  | $\pi \epsilon \rho \iota \in \pi \tau \iota c \mu \epsilon] \nu 0 \iota$ |
|  |  | $\alpha<\tau] \omega \nu$ |
|  |  | c] $\phi$ o $[\delta$ |

$4^{17}$

507 At the end of the line a short descending stroke: accident


## Fr. 12

Fr. 13
$\epsilon \nu \tau \epsilon \nu] \theta \in[\nu$
655
$\left.\delta_{\text {ккаи }}\right]$ [
$\epsilon \rho \in i]$ тuc ov $\chi \rho[\eta \nu$
] $\Lambda \alpha \kappa \epsilon \delta \alpha[\iota \mu о \nu \iota \omega \nu$
$\epsilon]_{\text {¿va! }}$
$\alpha \pi \epsilon] \delta о т о \quad$ ф $\downarrow![a \subset$
$\epsilon \xi \propto \pi \alpha \tau v \lambda \mid \lambda \omega[\nu$
$\delta \delta \delta] a c \kappa \omega[\nu$
(foot)


 42) as the standard, the initial lacuna of $544^{1}$ has room for $\phi \epsilon \rho^{\prime} \in \ell \ell$, but not for $\left.\phi \epsilon \rho^{\prime} \epsilon \iota k a\right]$. The reading of
has been considered a fortunate metrical emendation (Cary 182 ), but the agreement of $q$ wilh the papyrus may now point to a manuscript as its likely source, At any event, there is nothing in the scholia to suggcst a deliberatc intervention.

695 ].
].. $]$
]. $\theta \omega \nu$. [
$] \mu \epsilon \nu \in \delta$ [
] ${ }^{2} \rho \omega \nu \tau \pi$. [
уоо ]. бьшко.
]. ско. [
]a.. [.].[
]!. $\lambda_{\iota}$. .
]. $c \kappa v[$ (foot?)

## Fr. 14

Lometry. $\Sigma$ vet. 665 a regards the strophe as composed of eleven paeonic cola, of which $\tau \alpha, \mu \in \nu \pi \rho \omega \tau \alpha$

 Gifth colon ( $=696$ ), which made Thiemann emend $\gamma^{\prime}$ to $\delta^{\prime}$, and $\delta^{\prime}$ to $\epsilon^{\prime}$. R and othcr mss. have the fourth
 in R and elsewhere.' (EWH). In our papyrus considerations of spacc permit an arrangement exactly as in R . Likewisc, spacing suggests that 697 and 698 were $\bar{\epsilon} \nu \in \in \epsilon \theta \epsilon \in \epsilon$, and in $699-702$, though only parts of the middle of the lines survive, the divisions were probably identical with those described in the scholia and exemplified by R (and other mss.).

695 The remaining traces, a long descender (?) followed by scattered specks, are too cxiguous to allow match with the transmitted text.

702-3 The space between the two verscs is slightly wider than elsewhere in the fragment. If this was
intentional, it may be that the widcr space served to distinguish the antode from the antepirrhema, or to accommodate a paragraphor; but I have found no parallels for this.

## Fr. 15

x

$$
] \nu \cdot[
$$

]. $\tau \circ[$
a] ${ }_{\rho} \chi \alpha \tau[\omega \nu$
$\mu \epsilon] \gamma \underset{\sim}{\rho}[\iota \epsilon \iota \subset$
$\Delta \iota к \alpha \iota \sigma \pi \circ \lambda] \iota \Delta \iota[\alpha \iota \sigma \pi \circ \lambda \iota$
] $\phi \alpha \iota[\nu \omega \nu$
825 сvко $\phi] \alpha \nu \tau \alpha[c$
x and y cannot be placed in 819-20. The sequence of letters in y could match with 8 rg (xotp $\delta \delta \mathrm{i}]$ a $\tau 0[$ (ivv ); in that casc we could reckon with an omission of 820. x cannot be brought to match with any of
the adjacent lines (after $\nu$ traces on edge suggesting a left-hand arc). But this may be a false problem if x and $y$ were never intended to be part of the main text. The interlinear space between them is narrower than usual, so that one may think that they may be comments written above the column of writing, is in fr. 6 Neverthclcss, they scem to be in the same hand as the main text, unlike what happens in the other fragments prescrving annotation (frr. 5 and 6).

## Frr. 16-23 UNPLACED

| Fr. 16 | Fr. 17 | Fr. 18 |
| :---: | :---: | :---: |
| . . | . |  |
| ]... [ | ]. $\theta$. [ | ]. $\delta \alpha[$ |
| $] \nu \mu[$ | ]. . ov v | ]. O [ $[$ |
| $] \nu \mu[$ | ]. $\pi \stackrel{T}{[ }$ | ]. $\iota \theta$. [ |
| ]. .[ ] ${ }^{\text {. [ }}$ | ] $\theta$ o. | ] $\omega \nu \alpha$ [ |
| ] vo. [ | ]. $\kappa$ [ |  |

Fr. 16 I ]... [, base and lower right quadrant of rounded letter; upright, short interval, lower arc at one-third height $(\kappa$ if one letter); rising oblique, wedge not excluded 4]., high trace; triangular top . [, high speck 5 .[, curved leg joining tip of lower arc at lower right ( $\mu$ ?)

Fr. $171 \begin{aligned} & 1 \\ & 1\end{aligned}$, upright joining high horizontal extending to right $(\gamma, \tau) \quad$. [, back of rounded letter nd a speck at line-level 2 ]., right-hand tip of high horizontal joining upright (one or two letters, ${ }^{\iota}$ or $\pi$ ) 3 ], foot of curving tail joining upright to right ( $\nu$ ? ) $4 \theta$, only a right-hand curve resending oblique, probably joining hot riser at midheight

Er. 19 I ]. [, lower arc, speck at upper right (o?) [ trace at line-level, probably foot of fising oblique or corner of edge of $a \quad$, ront and base of curved letter ( $o$ or $\omega ; \theta$ excluded since no trace of crossbar visible) ]. . [, right-hand curve intersected by crossbar (apparently $\theta$ ); top of $a, \delta, \lambda$
Fr. 20
alignment)
I ]. . [, lower part of $a$ ? ; foot of left-hand curve $\qquad$ 2. [, specks on edge (same

Fr. 21
Fr. 21
This scrap could be part of $296,334,590$, or 1050 . But $] \mu \omega[$ is also possible.
Fr. 22
Fr. 23
]. $\rho^{\delta} \in \chi[$
] $\phi$. .
]
]. $\gamma \alpha[$
$] \varphi \mu \epsilon \nu[$

Fr. 23 I . . [, two uprights linked with top horizontal ( $\iota \pi$ or $\iota \tau$ )
2 ]., speck at two-thirds height
Fr. 22
mrg. The first word might be $c k] \frac{\rho}{\rho} \rho \delta(a)(=c \kappa \delta \rho o \delta a)$; after that possibly a form of ${ }^{\mu} \chi \omega$. For what it is mrg. The first word might we ck

4511. Aristophanes, EQuites 736-46

## $2.3 \times 5.7 \mathrm{~cm}$

Third century
A small fragment with the beginnings of yo verses. No margins have been preserved. The writing is along the fibres. Back blank.

The script is a rather informal, medium-sized specimen of the 'Severe Style', slanting somewhat to the right. I would place it in affinity with GLH 21a and assign it to not earlier than the first half of the third century. The fairly pronounced contrast between thick and thin strokes and the presence of ornamental hooks on the upper extremities of $\delta, t, \lambda, v, \psi$ suggest that it belongs to the mature period of the style; on the so called 'tipo ornato' of this style see M. S. Funghi, G. Messeri Savorelli, Analecta Papyrologica 1 ( 1989 ) 37 ff . (list of examples on p. 41 n .12 ). All the lectional signs seem to be by the original scribe; there are paragraphoi, signalling speaker change, a rough breathing, and an acute accent (both in 745).

Equites is the play of which most papyri have come down to us (eight in Pack ${ }^{3}$ ), but no other papyrus includes these lines. The new piece contributes nothing useful to the text, whose history has been traced by D. M. Jones, $C Q_{\text {NS }} 2$ (1952) I7I ff.; 5 (1955) 39 ff.; and M. Pohlenz, $N A W G$ (1952) 95 ff .
$73^{6}$
$a . \lambda[\lambda$
oноь [c
Tove $\mu[\epsilon \nu$
cavtop [
каи скソ [тотороис
$\epsilon v \gamma a \rho \pi[$ [оش
$\bigcirc \tau \iota \tau[\omega \nu$
$\pi \lambda \epsilon v[c] a[c$
$744 \quad \epsilon \gamma \omega \delta \epsilon \pi[\epsilon \rho \iota \pi a \tau \omega \nu$

* $\psi o v \tau[0 c$

ка $\iota \mu[\eta \nu$
$744 \delta \epsilon:$ om. V , to the detriment of the metre.
744 oc: om. . The the detriment for the placing of diacriticals above $\epsilon$ in the papyrus is not casy to deduce. The 745 expovtoc. The reason for the placing of diacriticals above $\epsilon$ in the papyrus is not casy 10 deduce. The
accent may scrve to distinguish the Attic form (sce Herodian 1.456, 2.260, and cspecially in An. Ox. 257 f.) from the contracted form êdoôvroc (parts of é ét $\omega$ are transmitted occasionally even in writers of the fifih and fourth centuries, sec Kuhncr-Blass, Grammatik ii 435 , although they are often distinguishcd only by their ccent). As regards the rough breathing, it is possible that some unccrtainty was felt in antiquity about tho correct aspiration. I have not found evidence of this dispute elsewhere. But note that R writes $\boldsymbol{\varepsilon} \psi \dot{\psi} \boldsymbol{y r o c}$ (sic).

N. GONIS

4512-4513. Aristophanes, Vespae
Two manuscripts of the Vespae have been identified among the unpublished holdings of the Egypt Exploration Society. One is from a roll, the other from a parchment codex. The text presented by the new pieces is not extant in either of the two papyri of the play that have been published before. The commentary 4509 with lemmata from verses $36-4 \mathrm{I}$ constitutes a further ancient testimony to the text of the Vespae.
D. M. MacDowell offers a short sketch of the history of the text on pp. 30 ff . of his edition (1971); see also H. J. Newiger, Gnomon 55 (1983) 392 with further literature. For the readings of the manuscripts I have used the collations of E. Cary, HSCP 30 (1919) I ff., and MacDowell's apparatus. The sigla are those of MacDowell.
4512. Aristophanes, Vespae 96-ri 6
$374 \mathrm{~B} .105 / \mathrm{F}(\mathrm{r}) \mathrm{c} \quad 7 \times 11.3 \mathrm{~cm} \quad$ Third century
The head of a column from a roll, with an upper margin preserved to 1.4 cm . The writing is parallel with the fibres. Back blank.

Verse 96 is a column top, and the column contained at least 21 verses. If the play began at the top of a column, vv. I-95 could have occupied (i) 4 columns at an average of 24 verses/col., or (ii) 3 columns at an average of 32 verses, or (iii) 2 columns of c. 48 verses. On the basis that the first 15 verses of the surviving column measure 7.3 cm in height, column-height could be restored as (i) c. 11.7 , or (ii) c. 15.6 , or (iii) c. 23.4 cm Allowing 6 cm more for the upper and lower margins together, roll-height would measure at least (i) c. 17.7 cm , or (ii) c. $21.6 \mathrm{~cm}_{20}$ or (iii) c. 29.4 cm . (i) may be dismissed as there is no example of a roll of this small format from the third century (for the issue see the discussion in $\mathbf{4 5 2 1}$ introd.). There is no secure way of choosing between (ii) and (iii). Rolls most often range from 25 to 32 cm in height (cf. W. A. Johnson, CP 88 (r993) 47), and this may favour (iii). If (ii) holds true, approximately 48 columns would have been needed to contain the play, if the line arrangement did not differ from the medieval tradition. The column to column width in the trimeter parts might have averaged II cm $(9+2)$, which would give c. 5.3 m of roll to contain the play. In the case of (iii), the figures would be c. 32 columns and c. 3.5 m of roll

The papyrus is written in a smallish, slanting hand of the 'Severe Style', assignable to the first half of the third century. The apostrophe between the two taus in 107 in fact favours a third century date (cf. GMAW2 p. II n. 50). The general effect may be
comparable with LII 3659 (iii c.), which is somewhat more rapid and more partial to obliques; compare also XLII $\mathbf{3 0 0 8}$ (iii c.), which is again more rapid. XXXIX 2888 (second half of ii c.) is also similar, though here angularity is more pronounced and mu is different. The cross-stroke of $\nu$ tends to the horizontal; $\psi$ has the form of a cross, Descenders end in little curls to the left, a feature frequently found among representatives of the 'Severe Style' in its mature phase.

Apostrophes, apparently supplied by the original copyist, signal elision, but not consistently (neglected in 107); in 103 a patch of damage on the papyrus leaves it uncertain whether there was originally an apostrophe. Diaereses (inorganic) are used once over initial $\iota(97)$ and twice over initial $v$ (102, 108). No other lectional signs are in evidence. Punctuation by spacing seems to have been used in 112 (see the note below). Iota adscript is correctly placed where required.

The papyrus shows no textual novelties. With the exception of 108 the text is not different from that of most recent editions.

## Top

$\omega] c \pi \in \rho \lambda_{\iota} \beta a \nu \omega \tau \sigma \nu \epsilon[\pi \iota \tau \iota \theta \epsilon \iota$
каı $\nu \eta \Delta \iota^{\prime} \eta \nu$ íd $\eta \iota \gamma \epsilon \pi \underset{\sim}{[o v}$

l] $\omega \nu \pi \alpha \rho \epsilon \gamma \rho \alpha \psi \epsilon \pi \lambda \eta[$ cıov
го] $v$ aлєкт $\rho v o v a$
o] $\psi^{\prime} \epsilon \xi \in \gamma \epsilon \iota \rho \epsilon \iota \nu$ av $\quad[\nu$
$\pi \alpha] \rho \alpha \quad \tau \omega \nu \ddot{u} \pi \epsilon \nu \theta \nu \nu[\omega \nu$
$\epsilon \cup \theta] \cup c \delta$ а $\pi о$ оор $\pi \eta \subset[\tau \circ] v[$
$\kappa \alpha] \pi \epsilon \iota \tau^{\prime} \epsilon \kappa \in \iota{ }^{\prime} \in \lambda \theta \omega \nu \pi[\rho о к а \theta \epsilon v \delta \epsilon \iota$
( $]$
vто $\delta]$ ескодıас $\delta^{\prime} \alpha \pi a c ı \tau[\iota \mu \omega \nu$
$\omega \subset \pi] \epsilon \rho \mu \in \lambda \iota \tau^{\prime} \tau \eta$ ßo $\mu \beta v \lambda[\iota \circ$

$\psi \eta \phi] \omega \nu \delta \in \delta \epsilon i c a c \mu \eta \delta[\epsilon \eta \theta \epsilon \iota \eta$
] $\mathrm{ov} \theta \in \tau \circ \cup \mu \in \varphi[o c$
$\delta \iota \kappa \alpha \zeta \epsilon]!\tau \circ[v] \tau \sigma v \circ[v v$
] $\eta с \alpha \nu \tau \in c \omega c[$
т] $\eta \nu$ vocov $\beta[\alpha \rho \epsilon \omega c$
] גоуоוсь $\pi \alpha \rho[a \mu \nu$ Өои $\mu \in \nu о с$
$\alpha v \tau o] v \mu \eta \phi o[\rho \in \iota$
(From the top margin a faint line descends through $\pi$ of $\omega \mid<\pi \pi \epsilon \rho$ over four lines to $\nu$ of $\imath \omega \omega$; apparently a stray penstroke.)
 upright, clearly indicates iota. tov was thought to be unmetrical, as it gives a choriamb in the first metron ( $\Pi v-$ is scanncd short). A choriamb does sometimes substitute for the first metron of the trimeter, but this phenomenon is peculiar to tragedy, mainly with intractable proper names (and later in the mimiambs of Herondas). It occurs only once in comedy, Pax 663, but there in irmitation of tragic diction (another example is V. go2, but the passage is usually emended). On the issuc scc V. Schmidt, Sppachliche Untersuchungen Herondas (1968) 96 f.

99 ) $\omega \omega$ : so RV): io $\omega \nu$ B. $\omega \omega v$ seems to conform better to the line of the left-hand margin, as cstablished $\pi \alpha \rho \in \gamma$ pade: R

102 пapa $\tau \omega \nu$ : so codd. plerique: $\pi a \rho \rho^{\prime}$ à̀r $\tau \omega \mathrm{V}$, which is unmetrical and makes no sense.
IO3 $\delta$ : om. J, probably an accidental omission.
The papyrus is abraded after $\delta$, and it is not clear whether there was originally an clision mark.
оортүстош; $\delta$ ортисто0 V in error.
elision unmarked.
 diacresis above points to either cor $v$, and iota is palaeographically impossible. The coincidence of $J$ with the papyrus is interesting; it may indicate an ancient source bchind those readings of $J$ not found in other mss. $J$ is sometimes alone in offering good readings not otherwise transmitted (scc MacDowell p. 3 ; but note that the value attached to J has been contested on more than one occasion, see Newiger, Gnomon 55 (1983) 392 .
Nevertheless, it is hard to say that $\overline{\text { in }}$. editors generally prefer, is not exactly paralleled, but ímoтєтлacнévoc is a compound not attested in classical Grcek (MacDowell). One may entertain the suspicion that únt at the beginning of v. 106 prompted iौтотєтлacuévoc. But there can be nothing like certainty.
 also be a phonetic or even a graphic error.

110 Ex]oc: so RSVB: exxy JP in error (see MacDowell).
112 A space of 2 mm has been left blank between what I take to be the top of $\iota$ and $\tau$ : apparently punctuation, to indicate a pause in the speech (cf. GMAW2 p. 8)

 shows that this spclling was indeed in circulation in Athens down to the earlier fourth century (see L. Threattc The Grammar of Attic Inscriptions I 368 ff .), but the ancient grammarians claim that $\kappa \lambda$ defiv was the form employed by the comedians, while $\kappa \lambda$ gjelv was admitted only in paratragic passages (see Coulon I, introd. p. xxix and n. 3).
N. GONIS
4513. Aristophanes, Vespae io66-1 108
$676 \mathrm{~B} .15 / \mathrm{J}(\mathrm{r})$

$$
\text { Frr. 3-7 } 6.6 \times \text { го } \mathrm{cm}
$$

Fifth century

Eight fragments of a leaf of a parchment codex; frr. 3, 4, 5, 6 and 7 touch, but each only at a single point. This must have been a handsome manuscript, but the present remnants have suffered much and are extremely brittle. In many places the parchment has turned dark, especially on the hair side, while a couple of reddish stains complete the
overall smudged appearance. Nevertheless, much the greater part of the text is clearly visible, written in a metallic ink now turned dark brown. No margins survive.

There were 3 r lines to the page; the written height is calculable at 18.3 cm . No line survives in its entirety; this and the absence of margins would make any reconstruction of the original format of the page largely hypothetical. A rough estimate of the width of 1077 , which should be the longest verse of the piece, yields a figure of c. 15.3 cm . Allowing for a possible margin of c .5 cm on all sides, the dimensions of the codex would be about $20.5 \times 23.5 \mathrm{~cm}$, bringing it into class V of parchment codices (20/17 $\times 25 / 21$ ), as described in Turner, Typology 27.

The hand is a specimen of the 'sloping pointed majuscule'; it falls into its first type (GBEBP p. 4), whose state of perfection is typified by the hands responsible for the Freer Gospels ( $=G B E B P$ I $^{5}$ a, assigned to iv/v by Cavallo-Maehler). Our parchment seems to be somewhat later, and a date not earlier than the beginning of the fifth century may be considered; GBEBP 17 b (later v) is very similar. Shading, 'found in some examples of "sloping majuscule" from the later v century onwards" (GBEBP p: 42), is evident throughout. Ornamentation takes the form of finials, chiefly smallish blobs, on the top curves of $\epsilon$ and $c$, the ends of the horizontals of $\gamma$ and $\tau$, and the tips of the prongs of $v$. Notable also are the slightly slanting $\delta$, 'a type which is not attested before the late v century and does not become frequent until the vi century' (GBEBP p. go); $\kappa$ broken in two halves; $\xi$ in a single sequence of five movements; $\phi$ with elliptical loop; and the oblique profile of the feet of most uprights.

Iota adscript is written in the only place which requires it (Io79). Apostrophes accompany elisions (1078, 1083, 1097, 1100), but there is one instance of tacit elision ( 1083 ) and another of scriptio plena ( 1106 ). There is no other lectional sign in evidence.

All verses contained on the leaf are represented, but many metrical cola normally counted as single verses appear split into two lines. It is not unreasonable to suppose that the same arrangement was followed also in other parts of the play, such as e.g. the lengthy anapaests that preceded. It is thus not possible to calculate precisely the number of the pages that the play would have covered. At any rate, in a format of 31 lines to a page, the whole of the play would have taken up no less than 50 pages, and at least 34 pages would have come before the present one.

The eccentricity just described does not rest on any metrical principle. Similarly, reasons of space seem to be ruled out, for we find verses of equal or even greater length than those divided written normally in a single line. Cf. e.g. 1077 ( 40 letters) written in one line, while 1079 ( 37 letters) occupies two $(26+1$ I); also I 106 ( 34 letters, one line) and the preceding IIO5 ( 35 letters in two-23+12). It must be noted that all the lines containing the second part of a split verse are uniformly indented in relation to the preceding (and the following) longer line; the indentation must have been $5^{-6}$ letters' space, that is the same as the indentation of the lyrics. It is also worth noticing that there is a difference of division between epirrhema and antepirrhema. I suppose that this arrangement was effected with a certain aesthetic intention, perhaps for the righthand edge of the column to be as straight as possible. (Views about the mise en page
played an important role in the fortunes of lyric passages during the transmission, cf. J. Irigoin, $R E G 75$ ( $\mathrm{rg62}$ ) 6i ff.)

The colometry of the lyric parts is virtually identical with that of R and V (for an exception see $\operatorname{I095} \mathrm{n}$.), and the ode as preserved responds with the antode. In this codex
 cola appear to conform to a metrical pattern. The arrangement of the remaining cola seems to be based on an effort to match colon-end with word-end rather than on metre. Although there are no metrical schotia vetera available, we may surmise that the Alexandrians produced a sequence of trochaic dimeters, but this division pattern gradually deteriorated to what we find now in this and the later codices. The supposedly Alexandrian colometry has not found much favour in modern times. (Most recently Parker, The Songs of Aristophanes 246 ff . opts for a different analysis; contrast Zimmermann, Untersuchungen ii 212 ff., iii 3I f.)

The parchment offers six readings and a line arrangement not attested elsewhere. The amount of novelty is remarkable, but it would be bold to conclude that 4513 represents a branch of the tradition which has not survived in any medieval manuscript. I suppose all aberrations could be attributed to scribal carelessness and individual whim; with the exception of the new variant in IIO2, all the other unique readings could be more or less easily dismissed as corrupt.

In the transcript ${ }_{\llcorner }$and ${ }_{\lrcorner}$are used for letters visible on an old photograph, but due to disintegration of some edges no longer extant.

Flesh side
$\left.\lambda_{\epsilon} \iota \psi \alpha \nu\right] \omega \nu[$
$\rho \omega \mu \eta]$.
${ }^{1067}$

1070
$\nu о \mu l] \zeta \omega$
]к $\rho \in \iota \tau \tau о \nu \eta \pi[0 \lambda \lambda \omega \nu$
$\kappa \iota \kappa \iota \nu \nu o] \cup \subset[\nu] \in a[\nu \omega \omega \nu$
] $v \pi \rho \omega \kappa \tau \iota \alpha \nu[$
$\tau] \eta \nu \in \mu \eta \nu \iota \delta[\omega \nu$
$] \mu \in c o \nu \delta \iota \in \subset \phi \eta \kappa[\omega \mu \in \nu 0 \nu$
$\eta \pi \iota \nu o \iota]$ a $\tau \eta \subset є \gamma \kappa \epsilon \varphi[\tau \rho \iota \delta о<$
$\kappa \alpha] \nu$ a $\mu$ оис $[$ ос
1075

тросєс] тьข то[ขто
$] \epsilon \gamma \gamma \in \varphi[\epsilon i c$
$\alpha \nu \delta \rho \iota к \omega \tau \alpha] \tau$ оу $\gamma \in \operatorname{\nu ос~ка\iota ~} \pi[\lambda \epsilon \iota \subset \tau \alpha \tau] \eta \nu \delta \epsilon[$ $\omega \phi \in \lambda \eta \subset \alpha \nu]_{\tau \in c} \epsilon \nu \mu \alpha \chi \alpha \iota c \iota \nu\left[\eta \nu \iota \kappa \eta \mid \lambda \theta^{\prime}\right.$ о $\beta[\alpha \rho \beta a \rho o c$
$\kappa \alpha \pi \nu \omega]$ ८ $\tau v \phi \omega \nu \alpha \pi \alpha \subset\left[\alpha \nu \tau \mid \eta \nu \pi о \lambda_{\iota \nu}[\right.$ ] $\pi v \rho \pi o \lambda \omega[\nu]$
$\epsilon v \theta \epsilon] \omega \subset \gamma[\alpha] \rho \xi v[\nu \delta \rho \alpha \mu о \nu \tau] \epsilon c \xi v v \delta o \rho \epsilon \iota \xi[v \nu$ $\alpha \subset \pi \iota \delta \iota$

] $\alpha \nu \eta \rho \pi \alpha \nu \alpha \nu \delta \rho ’$ $v \pi$ o $\rho \gamma \eta c[$
$\chi \in \lambda \nu \nu] \eta \nu \in c \theta \omega \omega$
$\tau] \omega \nu \tau o \xi \epsilon \nu \mu[\alpha \tau \omega] \nu$ ovк $[$
$\tau \circ] v$ ov $\rho \alpha[\nu 0 \nu]$
] $\epsilon \omega c \alpha[\mu \epsilon c \theta \alpha \quad \xi v] \nu \quad \theta \in o \iota[c$ $] \eta \mu \omega \nu[\pi \rho \iota \nu \mu] a \chi \in<\alpha[c \theta \alpha \iota$ $\subset \tau] \rho a \tau o \nu \delta[\iota \pi \pi \tau \alpha] \tau \circ[$

$\theta$ өлдко]
Hair side
$\epsilon \phi \epsilon v] \gamma \circ[\nu$ $\tau] \quad 0 \nu[\epsilon \nu \circ \iota$
$\pi] \quad \alpha \rho \alpha \operatorname{\tau o!}[\mathrm{c}$
$\nu v \nu \in \tau \iota$
$A] \tau \tau \iota \kappa о \cup \kappa \alpha[\lambda \epsilon \iota \subset \theta a \iota$
$\delta] \rho \iota \kappa \omega \tau \epsilon \rho \circ \nu$

$$
\ln \tau \circ \theta^{\prime} \omega c[\tau \epsilon
$$

$\kappa \alpha \iota ~ \kappa \alpha \tau \epsilon \subset[\tau \rho \in \psi \alpha \mu \eta \nu$
] $\epsilon$ vàviove $\pi[\lambda \epsilon \omega \nu$
ov $\gamma a \rho \eta v[$
] $\epsilon v \mu \in \lambda \lambda \epsilon![$
c] $\cup \kappa \circ \phi \alpha,[\tau \eta \subset \epsilon \iota \nu$
$\phi \rho]$ оутıc[


${ }_{1} M \eta \delta \omega{ }_{\jmath} \nu \in \lambda o \nu \tau \in c$
$\alpha_{\iota} \iota \tau \iota \omega \tau_{\jmath} \alpha \tau \sigma \iota \phi \in \rho \in c \theta a \iota$

$$
\pi \tau o v c\left[\begin{array}{ll}
\imath v & \text { oı } \\
\nu
\end{array}\right] \omega_{\mathrm{j}} \tau \epsilon \rho \circ \iota
$$

 $\epsilon v \rho \eta \subset \epsilon[\tau \epsilon$
тоvс тротоис каı $\tau \eta \nu$ ठьaıтау $\subset \phi \eta[\xi \iota \nu$ $\epsilon \mu, \phi \in \rho \in \subset \tau \alpha \tau \sigma v c$
] $\mu \epsilon \nu \quad \gamma \alpha \rho$ ov $\delta \epsilon \nu \eta \mu \omega \nu \zeta \omega[\iota \nu$ $\eta \rho] \in \theta \iota \subset \mu \in \nu \circ \nu$

$\tau \alpha \lambda] \lambda \alpha$ о $о \circ[\alpha \pi \alpha \nu \tau \alpha] \varsigma \phi \eta \xi[\iota$
] $\nu \tau \epsilon \epsilon \gamma[\alpha \rho \kappa \alpha \theta \in c] \mu$, $\sigma v c[$
$\tau \alpha] \nu \theta \rho \eta \nu[\iota \alpha$
$\eta \mu] \omega \nu \quad[o v \pi \epsilon \rho] \quad a \rho \chi \omega \nu[$.
$\tau o] \cup \subset[\epsilon \nu \delta \epsilon \kappa]$.
 occurs also at Men. Dysc. 38 , where $\mathrm{P}^{1}$ has ${ }^{\mathrm{E}} \chi \in \epsilon \mathrm{v}$, whereas $\mathrm{P}^{2}$ gives $\chi^{\prime} \in \mathfrak{\in V}$.)
 correct reading, but the spacing would not exclude the other variants (except the meaningless haplography $\kappa$ кvouc).



1076 ervep [ecc: so
survives, left survives, compatible with the right-hand tip of a high horizontal (gamma, which is palacographically possible too, would lead nowhere). All medieval manuscripts present some form of $\dot{\omega} \phi \in \lambda \epsilon \omega$, and I presumc the papyrus had $\omega \phi \in \lambda \eta$ capl $]$ ¢cc. This is not contradicted by spacing; 1078 is aligncd with ro 79 , and the iota adscript of $\kappa a \pi v \omega]$ is below the right-hand tip of tau, which is exactly what we should expect if $\omega \phi \in \lambda \eta c a \nu]$ Te tood in 1078 . The new reading is probably due to a scribe who failed to understand the participle as referring to $\gamma^{\prime} \hat{v}$
 certain. The new variant is inferior, perhaps wrong altogether. cuvrpé $\chi \omega$ may occur in military context (LSJ s.v. translate 'run together so as to meet in battle, encounter'), but usually takes a dative object Conversely, $\hat{\varepsilon} \kappa \tau \rho \dot{\epsilon} \chi \omega$ (or $\bar{\epsilon} \kappa \theta \in \epsilon \omega)$ is the most appropriate verb to convey the sense of the passage, which is that of an army charging out against an enemy, cf. LSJ s.vv.; with this mcaning it occurs in some passages of hucydides and at Lys. 456. 1 been the origin of this reading.
guv dopet. This (para)tragic phrase is quoted also at Pax 356;
aios'
' Momos (TrGF I 20 F 29). The various mss. read as follows

Pax 356 civv סopì cìv àctiố;

 acki $\delta \iota$ in both placcs, not many have followed Hcrmann in opting for civv $\delta \dot{\rho} \rho \epsilon$. Our parchment now offers

 coexisted in the fifth century AD. Choiroboskos may have drawn on a manuscript, which we now know to have had a precursor. MacDowell's view that, after the first $\xi \in{ }^{\prime} v$ had been ousted by cív 'some editor changed סopi to $\delta$ ofpet in an attempt to restore the metre' now appcars less plausible.
 note its absence in the parchment-was misrcad as nu. The ensuing av might also have played a part.

Assuming that the first letters of 1084 and ro85 were aligned, space excludes that the codcx had 10 . Assuming that the first letters of 1084 and 1085 were aligned, space excludes that the codex had a $\pi \tau \epsilon \omega c \dot{\alpha} \mu \epsilon \epsilon \theta \alpha$. transmitted by the An. Ox, 'is a strange piece of luck, since it garbles and quotes as Lys.' (E. W. Handley).
ro86 $\mu a \chi \epsilon \subset a[c \theta a u: \quad \mu \dot{\alpha} \in \epsilon \theta a u$ codd. What survives from the letter after sigma best suits alpha (only the wcdgc and the apex). $\mu a \chi$ 'caccear is not stricily unmetrical ('dactyls' in trochaic tetrameters are not intolerable, but the secure parallels are very few, cf. $\mathbf{4 5 1 0} 318 \mathrm{n}$.), but is lcss satisfactory in terms of grammar than the received reading,
$\delta[\iota \varepsilon \pi \tau a]$ ro. I supplement with the mss., but certainty on what the papyrus had is impossible. Brunck changed it to $\delta_{ו \epsilon \epsilon \pi \tau \epsilon \tau 0,}$ and this was adopted by many editors. However, the mss. reading is blameless, cf. commentary and Kühncr-Blass, Grammatik ii 23415
1087 A traced reconstruction suggests that lines 1086-87 (lines 28-30) were arranged as follows:


```
    <т\rhoато\nuঠөє\piтатоєi\tauа
```

But this would assume an overrun in a non-lyric part ( $\epsilon i$ ita $\delta^{\prime}$ should start 1087), which has no parallel in the text as prescrved. The alternatives arc that 1.30 (ro87) was not aligned with 1.28 (ro86), i.e. it was written in ckthesis, but such a change of alignment is without a parallel in the parchment; or that the text was different from the received.

| ]a: eimó $\mu \epsilon \epsilon \theta a \mathrm{R}$ cdd.: $\dot{\varepsilon} \pi \delta \dot{\mu \epsilon \epsilon} \theta \alpha \mathrm{V} I \mathrm{~J}$. The remaining ink is consistent with alpha, but does not positively |
| :--- | tify it.

1088 If $\kappa \epsilon v \tau]$ ou $\mu[$ [voo was written in a separatc line, the indentation would be of only 3 letters, which docs not seem to be the casc anywhere else. I therefore believe that the division was effected after $\kappa$ kv, where one would normally divide, of. E. Mayser, Grammatik I $\mathrm{i}^{2}$ 222, and Turner, GMAW ${ }^{2}$ p. 17. Of course division after $k$ cannot be excluded, but it is less likely.

1090 It is not clear where this verse was divided. For the same reasons of space as those slated in the previous note, it is prefcrable to think that $\delta$ ]purcorepov was written in the following line, with $a \nu$ kept above. However, one cannot rule out that there may be an exception herc to the practice obscrved elsewhere. impossible as M .
 or $\mu \epsilon \lambda \lambda \epsilon[$ [ are possible, but the contcxt favours the infinitive. It may be that continued. $\mu \in \lambda \lambda \epsilon \epsilon[\nu, \mu \epsilon \lambda \lambda \in \varphi$, $\mid c$, transposcd, and the infinitive was written instead of the imperfect, perhaps under the influence of the preceding and/or the ensuing infinitives; in this case the text does not scan. But it is perhaps more likely that $\lambda \in \xi \in c$ was supplanted by $\mu \dot{\epsilon} \lambda \lambda \epsilon \omega$ in assimilation to the following $\grave{\epsilon} \mu \epsilon \bar{\epsilon} \lambda o \mu \epsilon v$,

The colon division is uncertain. The parchment is broken off before $\epsilon \mathcal{\nu}$, and thus there is no way of knowing whether (i) it had $\hat{\rho} \hat{\eta} c w$ before $\epsilon \hat{\jmath}$, i.c. it divided with the mss., or (ii) began the line with $\epsilon \hat{\dot{v}}$. If (i), $\dot{p} \eta \mathbf{c} \boldsymbol{v}$ would have been in ekthesis, but ekthesis is not othcrwisc in evidence in 1094-1101.

IIO2 $\pi 0 \lambda \lambda a \times \eta$ : $\pi 0 \lambda \lambda a x 00$ codd. The new variant is grammatically, as well as metrically acceptable, and yields identical scnse with that of the tradition. A striking parallcl is provided by Isoc. 4.183: there all cditors

similar to $\pi 0 \lambda \lambda a \chi \hat{\eta}$ ckoтồv $\epsilon$ ec which we havc here. But the cccentricity of the othcr readings in $\mathbf{4 5 1 3}$ casts doubt on the genuinencss of this novelty.
 What the parchment had evades us.
N. GONIS
4514. Aristophanes, Pax ili95-1211, 1233-47

68 6B. $25 / \mathrm{D}(\mathrm{r}) \mathrm{a}$

$$
7 \times 1 \mathrm{r} .3 \mathrm{~cm}
$$

Fourth century
A piece of a leaf from a papyrus codex with line-ends and a few marginal notes on the $\rightarrow$ side (right-hand page) and line-beginnings on the $\downarrow$. On the $\rightarrow$ side the righthand margin, which is probably the original, measures 4 cm at its narrowest point; on the $\downarrow$ the left-hand margin is preserved to 4.8 cm . The writing is along the fibres on the front.

Each page must have contained 36 verses; if the colometry was not considerably different from that transmitted, about 38 pages would have held the whole of the play. The written height was about 21.2 cm ; the original width of the codex may be calculated at around 18 cm . No data for the upper and lower margins are available, but codices measuring 18 cm in width fall within those belonging to Turner's Groups 3,4 , and 5 (see the discussion in Typology 15 ff ., 24). The average page heights of these three groups are $3^{1 / 2}, 25$ and 30 cm respectively. We may therefore estimate that the height of the leaf was originally about $25-32 \mathrm{~cm}$.

The writing is in a brownish ink which has faded at places; for metallic inks (originally black, turning brown with age) see $G M A W^{2}$ p. 9 and n. ro7. The rather small hand is a plain round one, with an overall informal stance; it becomes coarser on the side where it is across the fibres, as some physical resistance to the pen was produced by the fibres. Letters often touch. Notable letter-forms include $\beta$ with broad horizontal base, $\nu$ with the oblique curving up to meet the right-hand hasta. The general character is somewhat comparable with GBEBP rob (second half of iv cent.), though the latter is more cramped and has even less formal pretentions. A date within the fourth century is probable. The tiny near-cursive script of the marginalia also points to the same date.

Changes of speaker are indicated by paragraphoi and dicola. Note, however, the absence of the paragraphos below 1238 , where the antilabe occurs at mid-verse, while it is marked under 1233 and 1245, where the situation is the same. Problematic is the paragraphos below 1232, as the speaker continues in 1233. It seems to have been misplaced, but one wonders whether the two speaker changes within I233 might have been responsible. Apostrophes are written where elision is required (for the alleged prodelision in 1238 see note below). The other lectional signs in evidence consist of a
rough breathing, an acute accent, a grave accent, and a low point (punctuation). All, except perhaps the acute in $123^{8}$ (black ink), seem to be the work of the original scribe. No iota adscript appears in the text as preserved.

The papyrus bears marginal annotation, which comprises glosses and a more discursive note. All but one of the notes are attested with similar wording in the various lexica and, less often, in the scholia. All the notes on substantives (I 195, I 196, I200) are in the nominative, that is they are inflected differently from the words of the text which they explain. K. McNamee, Sigla and Select Marginalia (1992) 70 has argued that such anomalously inflected glosses were borrowed from hypomnemata, where the case was determined by the grammatical structure of a discursive explanation. The wording of the single discursive note (on 1211 ) suggests a commentary as the source, but naturally another origin cannot be excluded.

The papyrus confirms the antiquity of the mss. readings in I2OI, and offers two new variants, one derivative and plainly wrong ( 1238 ), the other curious, but not securely restored ( 1240 ). For the readings of mss. other than L, which I collated on the original, I rely on the apparatus of Zacher, and S. D. Olson, 'Studies in the later manuscript tradition of Aristophanes' Peace', CQ 47 (1997) 62 ff . References to the scholia on Pax are after Holwerda. The edition and commentary of Olson (1998) appeared when this volume was already at proof stage.

## ]. [

$\epsilon \iota \delta o c$
єiסoc aptov кa入ou
$\alpha \nu \alpha \zeta \epsilon \omega \theta \in \rho \mu$,

то $\lambda \epsilon \pi \tau о \nu$ ронисна
$\rho a \chi \mu \omega]$ ! є $\mu \pi о \lambda \omega$
$] \in \subset$ т̦ove $a[\gamma \rho \circ] v c$
$\lambda] \alpha \mu \beta \alpha \nu \epsilon$
$\tau \alpha]$ บ $\tau i \delta \in \chi o v$
1205
$a \pi] \omega \lambda \in \subset, a c:$ лоф]ас:
$\epsilon \kappa ~ \rho l \zeta \omega \nu$
ov $\pi \omega \lambda \epsilon \iota c$ tove
גoфoue

є $\gamma \omega \gamma \in \nu \eta[$
$\tau \circ \nu \pi \rho \omega[\kappa \tau O \nu$
iө ${ }^{\prime} \nu \nu \nu{ }^{\text {' } \xi \epsilon \nu}[\epsilon \gamma \kappa \epsilon$ $\theta \lambda_{\iota} \beta \epsilon \tau$ [
1240
$\dot{\eta} \nu \in \pi \rho \iota[\alpha \mu \eta \nu$

- $o \lambda \nu \beta \delta[o \nu$
$\epsilon \pi \epsilon \iota \tau^{\prime} \alpha[\nu \omega \theta \epsilon \nu$
$\gamma \epsilon \varphi \eta[$ [ $\epsilon \tau \alpha \iota$
1245
T $\quad \underset{\sim}{0}[$
$\epsilon \varphi[\tau \epsilon v \theta \epsilon \nu \iota$

1194 mrg . The ink, if not stray, surgests the presence of annotation opposite where 1194 must have stood (1194 receives comment in the scholia).
${ }^{1195} \mathrm{mrg}$. This must be a gloss on something in r195: either on dُ ávidouc or on кix $\lambda$ ac. The first is

 managed to match the traces with any of these interpretations. For glosses introduced by fíoc cf. nos. 7, ir 24 in McNamee, Sigla and Select Marginalia App. 2.
1196 mrg. This note secms to be a rough and ready interpretation of кo $\lambda \lambda$ dáBove and need not derive from a specialised book; Athenians were very fond of $\kappa 6 \bar{\lambda} \lambda a \beta$ ot, as we may infer from this and other Aristophanic passages. Its only affinity with the scholiastic tradition I have been able to trace is with a scholion

1197 mrg . Two words are written herc. The first, àva引 $\epsilon \omega$, is a gloss on advaßpá $\tau \tau \omega$ in 1197. Another hand, as indicated by the colour of the ink, made a correction by writing $\zeta \epsilon$ over something which is beyond recovery (possibly $\zeta$ is written over a $\chi$ ). The second may read $\theta \epsilon \rho \mu \ldots$, the letter after $\mu$ is most likely a, and the last probably $\omega$; what comes in betwecn is unclear. This looks nothing like an explanation of kixdac; herefore it too should refer to avaßpáz $\tau \omega$, either as a second gloss or as a continuation of the first. In the former case, we need a verb form: $\theta$ eppalvew is the strongest candidate. But it is hard to find $\iota$ and $\nu$ in the
traces that should belong to these letters．In the latter case，I can think only of $\theta \in p \mu \hat{\omega}$ ，which is not only
 gloss（but cf． 12 II mrg．）
$\zeta_{\epsilon} \epsilon \epsilon$ is the gloss given for $\beta$ pácét in Hesychius and Suda（ ${ }_{5}$ 518）．In other lexica and elsewhere in the
 b Wilson，but with different wording from the lexica．
 for this word can be found in Hesychius，Thomas Magister and the scholia．This note is not introduced by ei̊oc，like the previous glosses or the co，
was absent from the source of this note．
 undergone numerous emendations on the grounds of（i）metre：$\delta \rho a-$ in $\delta \rho a \chi \mu \omega \bar{\nu}$ must be scanned as long whereas normally it is short（Dawes）；（ii）sense：the price of the sickles is too high，and contrasts violently with the price given for the jars in the following verse（Elmsley）．The counterarguments，set out most recently by Sommerstein，are：（i）This scansion for $\delta \rho \alpha$－is not unparallelcd（for parallels see Gomme－Sandbach on Men．Epit．3．35）．（ii）The sum of money involved is deliberately made large for the sake of comic effect（on he 5 ）Spacin（he pricual tradition 1202 eci so RV：sic rcll．On éc in Aristophancs sce 4516 t 669 n．， 4520650 n.
1204 тavet：so I：ta⿱亠乂寸a RV contra metrum

 which glosscs $\pi \rho 0 \theta \in \lambda \lambda \mu \nu v o c$ in Hesychius，［Herodianus］，De Part． 113.18 ，Suda（ $\pi 2580$ ），and $\Sigma$ I2 rob and $E q$ 528a，d Joncs－Wilson．

 גéyouév tiva dícpiàv，ouct．
 marked in papyri，cf．GMAW ${ }^{2}$ p．12）would not have been effected otherwise．It probably derives from 1207 which begins with ${ }^{4} \theta_{1} v v v$（on this type of crror see J．Jackson，Marginalia Scaenica 223 ff）．）．It does not seem to a different reading from＂$\xi v \nu \in \mathcal{V} \kappa \epsilon$ ，beginning likewise with $\xi \in v$ ，but I cannot think of any

 every appearance of being an extraordinarily large apostrophe．But its function is unclear．It may be an clision mark；in that case，a vowel should have followed，but the tradition offers nothing suitable．Alternativcly， the sign may be a diastole originally intended to be placed between the two lambdas，but wrongly added
 and there are no metrical or grammatical flaws（for the construction of $\tau \ell$ with $\chi \rho \dot{\eta}$ copal cf．Ach．935）；note also that $\tau<\delta^{\prime}{ }^{\circ} \lambda \lambda \lambda_{0}$ occurs tweive times in Aristophanes，mostly at the beginning of a new speech．Professor Handley notes that＇the $\alpha \mathrm{a} \lambda \lambda_{0}$ o would give the excellent sense＂What else can I do with this trumpet？．．．＂，to which an answer in terms of alternative use，aptly ludicrous，is given in 1242 ff ，and another again in 1245 ff ．

N．GONIS

4515－4516．Aristophanes，Aves
Among the unpublished holdings of the EES two fragments have been identified as containing portions of the Aves．The verses covered are not among those preserved in any of the papyri of the play hitherto published

A detailed account of the history of the text can be found in N．Dunbar，Aristophanes Birds（1995）Ig ff．My reports on readings derive from J．W．White，E．Cary，HSCP 29 （1918） 77 ff ．，and Dunbar＇s apparatus．The sigla are Dunbar＇s．

4515．Aristophanes，Aves i $324-8$ ，i $357-6 \mathrm{r}$
95／61（a）
Fr． $13.45 \times 2.7 \mathrm{~cm}$
Fifth／sixth century
Two scraps from a papyrus codex．A right－hand margin of I．I cm on the $\rightarrow$ side of fr． 2 is extant．It seems that there were 33 verses to a page，which gives approximately 54 pages to contain the whole of the play．In what survives the interlinear space on the $\downarrow$ side is somewhat wider than on the $\rightarrow$ ；this means that with 33 verses to a page the two sides of the leaf would differ c． 2.5 cm in their written height， 18.15 cm for the $\rightarrow$ to 20.65 cm for the $\downarrow$ side．But if written height remained approximately the same in all sides，we may reckon with either a narrower interlinear space in the part now lost， or a different number of verses on each side

As practically no margins survive，it is not possible to calculate exact figures for the original dimensions of the codex．Of the verses represented， 1359 should have occupied the greatest width，c． 15 cm ．Allowing for a possible margin of 5 cm on al sides，we may reconstruct the dimensions of the page as $\mathrm{c} .20 \times 26 \mathrm{~cm}$（written height is considered at its maximum）．This would classify our codex under Turner＇s Group 4 Turner，Typology 16），a group＇predominantly of iii to iv，except for its aberrants＇（ibid， 24）．Group 5 ，especially its subclass（ $18 \times 25 \mathrm{~cm}$ ），cannot be excluded，for there are several examples of codices of this size from the third to the sixth century（cf．ibid． 17 24）；we must then allow for less generous side－margins．

The text is written in a coarse medium－sized hand，somewhere in the vicinity of the＇Alexandrian Majuscule＇，It is somewhat comparable to GBEBP 2IC and d both $\mathrm{v} / \mathrm{vi}$ ）and the more formal 22 a （assigned to mid－v c．，but I would prefer a slightly later date）．A fifth／sixth century date would seem acceptable．The only lectional sign in evidence is an acute accent（I359），apparently written by the original scribe

The $\rightarrow$ side preserves parts of lyrics．Their colometry does not diverge from that adopted in modern editions，but in 1325 differs from R and V ，which split the line into two separate cola．This arrangement may be due to the fact that the line is longer han the cola that follow（for the scribal tendency to write lyrics in short cola cf D．J．Mastronarde，J．M．Bremer，The Textual Tradition of Euripides＇Phoinissai（1982）I52）． The agreement of R and V seems to suggest a common，ancient background；but it would be rash to generalise from a single line that the papyrus provides evidence for an alternative ancient colometry（no metrical scholia vetera are available）

The papyrus seems to offer the same text as the medieval tradition against generally accepted emendations in 1325 and 1358 ；but in I 328 ，so far as it is preserved，it confirms a correction of Bentley．There is also a trivial new variant，apparently a mistake，in 1327

Fr. I Fr. 2
$\phi \epsilon \rho \in \tau \omega]$ када日оv $\tau[\alpha \chi v \tau \iota c] \pi \tau \in \rho \omega \nu$
cv $\delta \alpha v, 1]$ с $\epsilon \xi$ \% $\rho \mu a$
$\tau v \pi \tau \omega \nu] \gamma \epsilon \tau 0 v \tau \omega[\nu \omega \delta \iota$ $\pi \alpha \nu v \gamma \alpha \rho]$ ß $\alpha a \delta v c \epsilon[c \tau \iota \tau \iota c \omega c \pi \epsilon \rho$ ovoc

## Fr. 2

Fr. I
$\downarrow$

$\alpha \pi] \epsilon \lambda a v<\alpha \gamma \alpha[\quad] \quad \Delta \iota \in \lambda \theta \omega \nu[$
1360

$$
\begin{array}{r}
\epsilon \pi \epsilon \iota \delta \eta \pi \epsilon] \rho \quad \gamma \alpha \rho \quad \eta \lambda \theta \epsilon[c \\
] \omega c \pi \epsilon \rho \text { op. }[\nu \iota \nu
\end{array}
$$

 neither seems very satisfactory.
I325 $\pi \tau \epsilon \rho \omega \boldsymbol{y}$ : so codd.: $\pi \tau \epsilon \rho \dot{y} y \omega \nu$ Porson and most editors. The cmendation is metrical, to make the
first colon of the antistrophe correspond with the strophe (I3I3. of. Parker. The Songs of Aristoper first colon of the antistrophe correspond with the strophe ( 1313 ; cf. Parker, The Songs of Aristophanes 341) Pcrhaps $\pi \tau \epsilon \rho \hat{\omega} \nu$ is an influence from the numerous occurrences of $\pi \tau \epsilon \rho \hat{\omega} \nu$ and $\pi \tau \epsilon \rho \dot{\alpha}$ from 1306 onward ( $1306,1307,1310,1311,1375,1420$ ).
${ }^{1327}$ rovtc[ $v:$ rô̂rov codd. The papyrus' reading is wrong. Possibly it was influcnced from the omega in the preceding $\tau \dot{v} \pi \tau \omega \nu$ and/or the ensuing $\dot{\omega} \delta \delta$. But it may also be a simple phonetic error.
 supplement is only exempli gratia). The omission of $\tau \boldsymbol{c}$ in $q$ may be deliberate; but there is also nothing to xclude that it antedates Triklinios.
 of che length of the lacuna (our guide is the letters lost in 1325 between the two fragments, which come from a problem-frec part of the text) suggcst that the papyrus had the unmetrical yàp ou $\nu$. For a discussion of the I360 үap $\eta \lambda \theta_{\epsilon}$ [c: so codd. pleri
N. GONIS
4516. Aristophanes, AVES 166 I-76

106/6(d) $8.7 \times 12.1 \mathrm{~cm}$

The right-hand portion of the lower part of a column of what once was a handsome roll; dirt and humidity are responsible for its present darkened state. The lower margin
measures 3.9 cm ; of the intercolumnium 3.9 cm survive at its widest point. If the figure for the extant lower margin is the original, it falls within the range of rolls with columnheights of c. $16-22 \mathrm{~cm}$, see W. A. Johnson, The Literary Papyrus Roll (Diss. Yale 1992) 295 ; in that case the original roll would be of not unusual dimensions, as the common roll height was $25^{-32 \mathrm{~cm} \text { (id., CP } 88 \text { (I993) 47). The script is along the fibres. Back }}$ blank.

The hand is a rather informal, well rounded one, and may be assigned to the second century. Bilinearity is violated only by the stems of $\phi$ and $\psi$. Ornamental finial. are used plentifully, especially on the feet and the tops of most uprights. c tends to fall over; the arms of $\psi$ constitute a right angle. Somewhat comparable are Schubart, $P G B$ 31; Roberts, GLH 14 (the second hand); Turner, GMAW2 22, 62.

The only lectional sign in evidence is a middle point in 1668 , apparently written by the scribe himself. It was probably intended to mark a subdivision inside the period, cf. $G M A W^{2}$ p. 9, unless it functions as a word separator, so that the reader would not articulate $\delta \iota a ́ \lambda \epsilon \xi$ gov. Elision is observed, but no apostrophes seem to have been inserted. Iota adscript is not written in 1667 .

This is the oldest surviving manuscript of the Aves, and an important testimony to the constitution of the text. It offers a number of unique variants, and lends support to some modern emendations. Also significant is its concurrence with $\mathbf{E}$ in offering the best reading in 1670 , which confirms that $E$ provides at least some access to ancient readings.

A preliminary edition of this papyrus was made available to N. Dunbar for her edition of the play.

| 166r-2 | $\alpha \gamma \chi]!c \tau \epsilon \iota \alpha \downarrow$ |
| :---: | :---: |
| 1662-3 | $\gamma] \varphi \eta[\mathrm{c}]!\omega \nu$ |
| 1663-4 |  |
| 1664-6 |  |
| 1666 | $\tau] \omega \nu \chi \rho \eta \mu a \tau \omega \nu$ |
|  | ] $\tau \omega \nu \pi \sim \tau \rho \omega \omega \nu \chi[\rho] \eta \mu \alpha \tau \omega \nu$ |
|  |  |
|  | $\epsilon$ є] сךүаү єוс тоис фратєрас $\kappa] a \iota$ rov $\epsilon \theta \alpha u \mu \alpha$ दूv $\pi[a \lambda \alpha \iota$ |
| 1670 | $\kappa \in \chi \eta] \nu a c$ аıкє! $¢, ~ \beta \lambda \epsilon \pi \omega \nu$ |
|  |  |
|  | ор $\nu \theta] \omega \nu \pi \alpha \rho \epsilon \xi \omega \operatorname{co\iota } \gamma \alpha \lambda \alpha$ |
|  | ] $\pi \alpha \lambda \alpha \iota$ סокє!с $\lambda \in \gamma \epsilon \iota \varphi$ |

1661-66 The law of Solon is given in prose, and is distinguished by indentation of c. 6 letters from the following trimeters. This is a hypothetical restoration of 1661-67:

<br><br><br><br>

The papyrus divides it into 5 lines, as R and V do, but in the later mss, the fifth verse starts with $\mu \mathrm{ETe} \mathrm{e} \mathrm{v} v a n$ (L presents a division into two parallel columns of 3 lines each, with the text running horizontally from the one column to the other; this layout, also uscd for lyric parts, was probably dictated by aesthetic purposes,
or less likcly, by an eflort to extract as many iambics as possible from the prosc text.) Brunck, who established or, less likcly, by an effort to extract as many iambics as possible
the numbering now in use, preserved the division into 6 lines.

1662-63 $\pi \alpha i \delta \omega \nu$ 塍 $\omega \nu$ yvjci $\omega \nu$ was first deleted by Hamaker as interpolated. The papyrus supports the transmitted text. For a discussion on whether the phrase goes back to Solon or is an Aristophanic addition sce Dunbar ad loc. (to the literature cited there add D. M. MacDowell, The Law in Classical Athens (1978) 99). 1663-64
common type.

 of the adverb often coexist as textual variants (for the occurrences in fifth/fourth century literature sec Friis Johansen and Whitle on A. Suppl. 388; cf. also Blaydes ad loc.). The carliest instance is the passage of Aeschylus mentioned above, where efyviraza is guaranteed by the metre. Parallels could thus allow cither reading, and no chronological pattern in the usage of eithcr form can be established. Even the various versions
 source has ${ }^{{ }^{k} \gamma \gamma \dot{U}^{\prime} \tau^{\tau}}$, and editors have restored $-\alpha \tau \alpha$ and $-\alpha ; \omega$ at different times. The relevant epigraphic
 particular importance, as it bcars a legal text (the reading is not uncquivocal and some cditors print éryvтátō, but the latest cdition rules out the possibility that this can be read on the stone). The inscription, as well as A. Suppl. 388 suggest that Aristophanes may have written èyyúrata. But what he wrote we cannot dectermineI do not sec why ' $-\tau \omega$ is preferable as the less obvious form' (Dunbar)

U and $q$ add roo beforc $\gamma \hat{\text { Évove, }}$, but the artic
 Iota occupies so little room, that considcrations of space cannot be reliablc. Neverthcless, I would suspect that insofar as the papyrus' eic stands alone in the tradition, it might havc sprung from a preceding eicryyay'. ecc: ${ }^{\hat{k} c}$ codd. Editors nowadays print eichyay' and elc. Coulon postulated that ${ }^{\epsilon c}$ should bc preferred ‘dans d'ancicnnes locutions, consacrées par l'usage' ( 1 , introd. xxviu). The argument seems to be: a stock phrase must be old, hence likely to preserve the more archaic eُc. It is not impossible that éc rov̀c $\phi$ poitepac is an expression of this kind, as it has every appearance of being a set phrase. But I think it more likely that archaic forms (cf. D. J. Mastronarde, J. Brcmer, The Textual Tradition of Euripides' Phoinissai 176 f.).

фратерас: фрáтopac codd. The papyrus offers the correct reading, first restored by Dindorf, and corroborated by the inscriptions (cf. L. Threatte, Grammar i 534). фpáiopac is the form that later bccame ordinary, and not surprisingly displaced the older in the mss.

1670 rout: so E: $\delta \hat{\eta} \tau^{\prime} \Gamma \mathrm{U} q$ : $\delta \bar{\eta} \tau a, \tau^{\prime}$ RVA. I believe that $\tau 00 \tau^{\prime}$ is likely to be what the poct wrote. For the arguments in favour of rovi' sce Dunbar ad loc. The papyrus offers the correct reading in terms of orthography, corroborating Lenting's correction. To judge from Threatte, the word does not seem to occur in Attic inscriptions.

1672 $\eta$ ci crôc A, which was approved by some editors, but secms to be an emendation rather than a genuinc variant.

катастทㅊac: катасrйce codd. The papyrus vindicates Hirschig's correction, who tricd to eliminate the asyndcton. The cmendation, which did not immediatcly meet with overall approval, has been convincingly túpavyov; does it go back to ancient punctuation? I presume that the corruption can be explained as a graphic confusion in the minuscule.
 mádaı as 'more comically exaggerated'

Some incxplicable ink traces can be discerned after the end of the linc; offsets?
675 к]aүaye: E has кảy'́, contra metrum.
N. GONIS

4517-4518. Aristophanes, Ranae
Fragments of two papyrus codices double the number of known papyri of Ranae (there are no textual overlaps). The history of the text is outlined on pp. 76 f . of K. Dover's Frogs (1993). For the Byzantine recensions see C. N. Eberline, Studies in the Manuscript Tradition of the Ranae of Aristophanes (1980). As a basis for the collation I have used Dover's apparatus, with additional material from Eberline, from Dover, Text, and from Coulon's apparatus.
4517. Aristophanes, Ranae 592-605, 630-47

66 6B. $26 / \mathrm{J}(\mathrm{I}-2) \mathrm{a}$
$15.1 \times 10.8 \mathrm{~cm}$
Fourth century
The lower part of a leaf of a papyrus codex. The $\downarrow$ side was a right-hand page, the $\rightarrow$ a left-hand. There were 42 verses to a page; the 5333 numbered verses in modern editions would have occupied c. 37 pages of this codex. The extant lower margin measures 1.3 cm ( $\downarrow$ side); the outer margins $(\downarrow)$ average 2 cm each. The width of the codex may be estimated at around 16 cm . The height of the written area should approximate 21 cm . A page width of 16 cm lies closest to the range of Turner's Group 6 , in which codices average 28 cm in height, cf. Typology 18, 24 (Groups 7 and 8 are less likely possibilities).

The text is written in metallic ink now appearing dark brown in colour. The practised hand is a specimen of the sloping scripts found in papyri of the fourth century, reminiscent of the 'Severe Style' and congener to the 'sloping pointed majuscule'. Fairly strict bilinearity is preserved. Thin horizontals contrast with thicker uprights and
obliques. Notable is the flamboyance of the descenders of $v$ and (less often) $\rho$, descending well below the line and curving sharply to the left. The overall impression is similar to that of GMAW ${ }^{2} 49$ (iv); the two hands bear certain affinities, especially in the case of features peculiar to the 'Biblical Majuscule' $(\eta, \mu, \nu, \rho, \tau, \phi)$, but the characteristic feet of long descenders and the decorative finials on the horizontal of $\tau$ in our codex may suggest a later date. Similarities with most of the letter forms of the script exemplified by the Freer Gospels $\left(=G B E B P_{15}\right.$ ) , especially in the descenders of $\rho$ and $v$, make a date close to AD 400 likely. It represents, however, a less advanced stage of development; the Freer Codex shows a higher degree of stylisation and may be somewhat later in date.

The text is richly provided with lectional signs. All may have been written at the same time as the text (same ink). Paragraphoi and dicola signal speaker changes, and there is also a marginal nota personae. Apostrophes mark all elisions except one (599a; there is nothing in 645 after $\pi \alpha \tau \alpha \xi] a c$, but it is disputed, see 645 n .). There are also high points, a low point (see 644 n .), acute accents, circumflexes (between letters, in the pointed form), a rough breathing (Turner's form 3), a diastole after ovk in 640, and diaereses (inorganic) in the form of short horizontals along with the usual pair of dots. Crasis has been effected in 647 , but not in 598 . Prodelision is left unmarked. Iota adscript is employed three times (once in error, see 643 n.) and missed twice. A revision of the text appears likely, as indicated by the dicolon written high and squeezed between the letters in 647 ; the iotas added high between the letters in 599 b, 642 , and 643 , substituting for missing iota adscripts; the paragraphos in 597, clumsily inserted further to the right than usual; the adđ̛ition of a word omitted during copying in the left-hand margin, opposite the verse where it should normally belong. (It is not clear whether the correction in 639 was made currente calamo or during the revision.) There is no indication that the revision is due to a separate diorthotes; the marginal additions seem to be by the same hand, and the colour of the ink is consistent with that of the main text. Despite the diorthosis, however, an orthographic error has been overlooked (605). In what regards syllable-division, the papyrus exhibits the tendency to attach the consonant of an elided syllable to the following vowel, even if that consonant has to be transferred to the next line (599a; 598b seems to be a different case). This seems to have been the usual practice in antiquity, cf. Herodian 2.408 and the examples assembled by Mayser, Grammatik I i ${ }^{2}$ 224. This is also in evidence in the mss., at least in RVK $t$.

A feature that this codex shares with the other two published papyri of Ranae is the presence of verses of lyric. It has been observed that the colometry of those two papyri generally tallies with that of R (cf. Dover, Frogs 90). Here too the arrangement of the lyrics does not diverge considerably from that of RVAK (see below note on colometry).

The papyrus offers no significant textual novelty. Its points of divergence from the medieval tradition can be dismissed as scribal errors. But it is of special interest that it accords with some medieval manuscripts in certain much disputed readings.

In the numbering of the lyrics I follow Dover.

## 1 тo $\delta \in!$ vov



$\xi_{\alpha \nu \theta} \overline{o v} \kappa \alpha \kappa \omega<\omega[\nu \delta \rho \in \subset \pi \alpha \rho a \iota]$, $\epsilon \iota$
$\tau^{\prime} \alpha \dot{\alpha} \lambda \lambda \alpha ́ \kappa \alpha \iota \alpha[v \tau o] \subset[\tau v \gamma \chi \alpha] \rho \omega[\tau \alpha v$
$\tau$ а. $\rho \tau \iota$ сvvp[o]ovলєєос
$o \tau \iota \mu \epsilon \nu \circ[v] \nu \eta \nu \chi \rho \eta c \tau o ̀ v \eta^{\ell} \tau![$
тоvт' aфа! $\rho \epsilon \iota c \theta \alpha \iota \pi \alpha \lambda_{\iota \nu} \pi[\epsilon \iota$
$\rho a с \epsilon \tau \alpha \iota \mu^{\prime} \epsilon v$ oı $\delta^{\prime}$ oт $\iota^{*}$ [
$a \lambda \lambda^{\prime}$ о $\mu \omega с є \gamma \omega \pi \alpha \rho \epsilon \xi \omega$ [
بavтov avסрєєっv то $\lambda \eta \mu \alpha$ [
кац $\beta \lambda \epsilon \pi о \nu \tau$ ' opıүаvov' [
$\delta \in$ чyov $\delta^{\prime}$ єоוкєv wc акоvш т $\eta \mathrm{c} \theta$ [upac


## avtoc [

$\bar{a}$ Oavaroç $[$
тoviov $\delta \in \delta o\lceil v \lambda o v$
$\bar{\kappa} \alpha \iota \pi о \lambda v \gamma \epsilon \mu[a \lambda \lambda o v$
$\epsilon \iota \pi \epsilon \rho \theta \epsilon \circ c[$
 ov $\kappa[\alpha] \iota \subset v \quad \tau v \pi[\tau \epsilon \iota \tau \alpha c \iota c \alpha c] \pi \lambda \eta \gamma \alpha \subset \epsilon \mu \circ \iota$ : $\bar{\delta}_{\iota \kappa}[a] \iota o c$ o $\lambda$ o $\gamma[$ oc $\chi \omega \pi о \tau \epsilon] \rho o \nu \gamma^{\prime}$ av vwiv i $\delta \bar{\eta}[$ [८ $\bar{\kappa} \lambda \alpha \cup с \alpha \nu \tau \alpha \pi \rho[0] \tau[\epsilon] \rho \circ \frac{\eta}{\eta} \pi \rho о \tau \iota \mu \eta<\alpha \nu \tau \alpha[\tau \iota$
 оขк $\epsilon \subset \theta$ от] $\omega \subset$ оик’ $\epsilon \iota ~ c v \gamma \epsilon \nu \nu a \delta a c ~ a \nu \eta \rho$
 $\pi \omega c$ ovv $\beta \alpha]$ cavtєıc $\eta \mu a c$ ठıкаı $\omega c: ~ \rho a^{\iota} \delta \iota \omega c$. $\pi \lambda \eta \gamma \eta \nu \pi] \alpha \rho \alpha \pi \lambda \eta \gamma \eta \nu$ єкатєроข: кал $\omega^{\iota} с \lambda \epsilon ́ \gamma \epsilon \iota \varsigma$ [


Note on colometry．The papyrus disagrees with RVAK in the following points：（i）herc 592 a －b are combincd into one colon（see 592 n．），contrary to the mss．where they are separatcd；（ii） 600 （corrcclly）ends in $\pi \epsilon$－ here，whilc R and V divide at $\pi \epsilon \ell \rho a-$－（to judge from Dover＇s apparatus AK should agree with the papyrus），
But the agreement of the papyrus and the mss．in having the last two cola of each strophe（ $596-7,603 \mathrm{~b}-604$ ）
 line，as this is probably due to reasons of space．Conflations into a single colon of a sequence normally treated as two scparate cola is a recurrent phenomenon in the manuscripts，commonly held to represent the copyists attempt to savc space．It is hardly significant that in the papyrus the lyrics（with the exception of the lengthy $603 \mathrm{~b}-604$ ，written in elthesis）are aligned with the iambics，whereas in the mss，the lyric part is separated from the iambic by
acsthetic profercnces．

 with $599 \mathrm{~b}-600$ in the antistrophc，and also with $53^{6-7 a}$ and $543^{b-5} 54 \mathrm{a}$ in the corresponding pair of stanzas， which all present a trochaic tetrameter（or two dimcters）．It seems that one metron has dropped out；the
 is that of $t$ ，ceavrov alici，made up by Triklinios himself to patch up the problematic colon，as he professcs in his scholion（ $\Sigma^{\vee v 5}$ ，sec Eberline，op．cit．73）．The one that has fared best is Scidler＇s aî $\tau \grave{\lambda} \grave{\lambda} \eta \mu \alpha$ ．The evidence from the papyrus is not unequivocal．If it had contained the two dimeters intact，those would have been
 effccted，some more lettcrs must have preceded $\kappa \alpha i .1$ think it unlikely that the previous dimeter was also written in the line，for the spacc available scems too short to accommodate it，even if ekthesis were employed－ unless we think of an overrun，with the dimeter split between two lines；but this practice is not in evidence in the rest of the text．It would thus seem that the papyrus had the same text as the mss．with avaveájew starting the line，but，as spacing suggests，in ekthesis of about the same length as that in 6o3b－4．For a discussion of the passage see W．Trachta，Die Responsionsfreiheilen bei Aristophanes（Diss．Wien 1968）87 f．；C．Romano， Responsioni libere nei canti di Aristofane（1992） 57 ff；；Zimmcrmann，Untersuchungen I 200；and the commentarics of Dover and Sommerstcin．
 oot of an upright survives，but $\epsilon[$ cannot be read．
 lincs（ $540-1$ ）have the pattern ${ }^{v}-x-v^{-}$；by comparison，RKMU omit a long syllable before $\pi$ adidv， whereas V substitutes a short．After Dawcs，most cditors print＇＇cral．The close similarity of＇ccau to the reading of V makes the latter interesting：it is not unlikely that＇crt derives from＂crat through the omission of the alpha．For the presumcd corruption there is a good parallel at Ach．792，where the Berlin codex and R have
 emended to ${ }^{*}$ cracl by Markland．）The metrical defect of＇${ }^{\text {ccre }}$ can also be repaired by the addition of nu cphelkystikon．The Triklinian reading seems to be a metrical restoration；but no metrical scholion exists，and
there is always the possibiiity that＇Triklinios found $\tau u$ in some manuscript and did not invent it himself． Considerations of space suggest that the papyrus had the same text as RKMU；in the lacuna therc is no room for any of the words transmitted betwecn àváyk $\eta$ and $\pi \dot{d} \lambda \omega \nu$（nor for any of the conjectures）．
ra：om．V against grammar（（f．525）and metre．
59 at a d a．The frrst alpha bears an acute overwritten with an apostrophe，while the second has another acute．This seems to suggest that the scribe intcrpreted the scriptio continua either as（i）$\pi a \rho a u v e \hat{\imath} ~ \tau a ̈ \lambda \lambda a$, or as

a choice between（i）and（ii）on the basis of the division is impossible，cf．ravi｜rapzt later in the line．At a later stage，he corrected his mistake by writing an apostrophe over the accent and adding another accent on the
last syllable of $a \lambda \lambda \alpha$ ．I cannot exclude that the origin of the accent on the first alpha for the division last syllable of ad $\lambda a$ ．I cannot exclude that the origin of the accent on the first alpha（or the division
tan QUCC 29 （1978） 138 ff；C．M．Mazzucchi，Aegyptus 59 （1979）154 f．）
$596-7$ mrg．It seems that auvic had been omitted during copying，and was added later in the margin． There is no means of telling whether it was absent from the scribe＇s exemplar，and was supplied after a collation with another copy．Onc might think that it was written in 596 ，and the correction transfers it to 597；but spacing does not allow this．

6oo rovi＇：so RVM：$\tau a \hat{v} \tau^{\prime}$ AKU $~ U$ ．Most editors print $\tau a 0 \tau^{\prime}$ ，first defended by liritzschc．Pcrhaps the
 the text，

603 kal：om，A contra metrum．
 Eoukev makes no sensc，but it is not clear how $\delta$ ewvóv came to cnter the text．It might stem from $\delta_{\text {evivóv in }} 592$ ， or from misreading；but note that the papyrus shows signs of careful corrcction．Anothcr possibility is that it
is interpolated：$\delta \epsilon v 0 \dot{\nu}$ may have been influenced by the significance of the preceding $\beta \lambda$ érovr＇$\overline{\text { bivivavov，or }}$ it may be meant to illustrate Xanthias＇emotional state following the knock on the door（ 604 ）．In this case it may be worth considering the possibility of an intrusive gloss．
605 svidectat，al for є：Gignac，Grammar i 193．No tracc of the paragraphos expected between 604 and 605 is visible，but that may be due to abrasion．
$637 \gamma^{\prime}$ ：so RV：om．AKMUt．Metre can be of no help，but since the presence of the particle is ordinarily not in surplus in the vetustiores，I supposc its absence from the Palacologan mss．should go back to a scribal mission．

638 The paragraphos between 637 and 638 is curious．Yt may be taken to indicate that the speaker beginning 638 is different from the one who speaks last in 637 ；the change of speakers could have taken place cithcr at the start of 638 or within 637 （as in 632 ）．There is no manuscripl cvidence for such a change（ 6377 If： are uniformly attributcd to Xanthias）．If an antilabe was indeed marked in the papyrus，this could have been noted after do千ooc in 637 ．But this part of the text does not survive；and a change at this point would not be justifiable by the context（ $\kappa \alpha i$（ $\chi \omega \pi \sigma \sigma \tau \epsilon \rho 0$ ）is also an awkward way to introduce a sentence by a ncw speaker）．
If paragraphoi were addcd at a revision stage，we may reckon that this one was misplaced（for wrongly inserted If paragraphoi were added at a revision stage，we may reckon that this one was misplaced（for wrongly inserted
paragraphoi in the papyri see Lowe，loc，cit．32）．But the fact that the next speaker change occurs only three paragraphoi in the papyri see Lowe，loc．cit．32）．But the fact that the
verses later seems to speak against the possibility of a displaccment．
verses later seems to speak against the possib．
$\kappa \lambda a v c a v \tau a . \mathrm{R}$ wrongly gives $\kappa \lambda$ auvcovra．




643 The tiny upright inserted high between $\omega$ and c resembles the iota adscript added high in 642 ， although this is smaller in size．Perhaps the scribe mistakenly thought that кaג⿳⺈⿴囗十一⿱一𧰨刂灬 needed an iota adscript（by false analogy with кád $\omega c$ ，as in Pax 458？），and decided to supply it later．
${ }^{2} 44$ vvv：so RVAKMU：$\gamma^{\prime}$ ． ．
 $v v v$ ，and $\gamma^{\prime}$ which replaces $\nu v \nu$ in $t$ may bc a metrical emendation．
Aftcr $\nu v y$ there is a punctuation mark resembling a double point．It is too low in the line and compressed
be a dicolon，and in any case a speaker change at this point would be absurd．The papyrus is somewhat to be a dicolon，and in any case a speaker change at this point would be absurd．The papyrus is somewhat
abraded，and this might explain why a low point now appears split in two．But it is highcr in the line than would be expected for a normal low point．At any event，if it is indeed a low point，its purpose is dubious； does it serve as a word separator，with the role of an hypodiastole（ $G M A W^{2}$, pp． 9, II），or is it punctuation， separating the main clause from the subordinate $\left(G M A W^{2}\right.$, p．q）？
 $\sigma^{\prime}$ as the rcading of V ；the accent is placed directly above the junction of the first alpha with tau，but it is clear that it is the antepenultimate that receives the accent．）The various readings represent diverging interpretations of the scriptio continua，as was first recognised by Fraenkel（Beobachtungen zu Aristophanes 132）．
 argument against (ii) is that the elision is left unmarked, but the elision has not been signalled in $599 \times$ farthermore, it may be that the absence of the elision mark is due to the following finction as separator. The papyrus therefore docs not preclude either reading

A further difficulty in this verse concerns the distribution of parts to speakers. The mss. divide 645 into hree parts: st part: Ai. VAMUt: decst in RKMdr; 2nd part: Xa. . $\Sigma^{\mathrm{R}}$ on 649 and Rutherford's note). To Xa. RS: Di. M. This uncertainty is apparco the first two speaking parts seems to be the same as in VAMUt. it docs not continue 645 to Xanthias, and gives him the first negative answer. But the attribution of the third part is problematic. It is not clear whether the scribe intended to write a dicolon (double point) or a high poin (punctuation) at the cnd of the line. 'The upper point is clear. Below that is a smaller point, written furt ther to the right and higher in the linc than the lower constituents of other dicola, so that er moint was added at a there is no connection between the two points. Nor can it be cxcludcd tifult to decide to which spcaker the later stage. This uncertainty about the final punctuation minats admitted, the same spcaker continues to the papyrus assigned the whe be identificd with Aiakos, who speaks at the start of 646 . If, on the other hand, next linc, and can
doublc point is assumed, the last words of 645 are given to Dionysos, as in M.
The variation in the accentuation of marajac and the problematic speaker distribution have given ris to a number of emendations, and widely divergent views have been expressed. For a discussion of the passag see the commentaries of Dover and Sommerstein, and R. Kassel, RhM ${ }^{1} 37$ (r994) 46 f.
4518. Aristophanes, Ranae 1244-8, 1277-8i

64 6B. $45 / \mathrm{L}(2) \mathrm{b}$

$$
2.5 \times 3.1 \mathrm{~cm}
$$

Fifth century
A scrap of a leaf of a papyrus codex. No margins survive. There were c. 33 verses to a page, which would give a length of approximately 47 pages for the whole play. The depth of the written surface may be calculated as c. 21.3 cm . 1246, the longest in number of letters (37) of the preserved verses, would require a breadth of c .20 .2 cm . These dimensions are compatible with a codex of rather large format; with side margins measuring no less than 2 cm each the page would be at least 24 cm wide, a figure that points to codices belonging to Turner's Groups 1 and 2, cf. Typology i4f. In these Groups are classified codices usually exceeding 25 cm in height. We may thus estimate that the original page dimensions were $24+\times 25+\mathrm{cm}$.

The text was copied with a thick pen in a metal-based ink, now turned brownish colour. The script, large, heavy, and somewhat coarse, is a congener of the class of 'sloping pointed majuscule'. A date within the fifth century may not be far off the mark; the absence of any kind of mannerism or stylization speaks against a later date. In the little that remains there is no evidence of lectional signs.
$\downarrow$

1245

$$
\begin{gathered}
\pi \epsilon \lambda \alpha \theta \epsilon] \iota[c] \in \pi[ \\
\kappa o \pi \omega] v \text { ocov }[ \\
\beta o v] \lambda o \mu \alpha \iota[ \\
] \beta \operatorname{\beta ov} \beta \omega \varphi[\omega \omega \\
c \tau] \alpha c[\iota] v \mu[\epsilon \lambda \omega \nu
\end{gathered}
$$

$1244 \lambda] \epsilon[\lambda \epsilon \kappa$ रa, not excluded
1278 Above the first omicron what secms to be a thin grave accent, but perhaps stray ink only.
N. GONIS

## 4519-4521. Aristophanes, Plutus

Three unpublished papyri of Plutus complete this section. Four papyri of the play have been published so far. There are slight overlaps of text between 4519 and XIII 1617, and between 4520 and 4521

There are some one hundred and fifty manuscripts of Plutus, most of them late. Only a small fraction has been collated. Various aspects of the history of the text are touched upon by Dover, Text, but a systematic study remains a desideratum (the studies of M. R. Di Blasi which have appeared in Maia 49 (1997) 69 ff ., 367 ff ., although useful, rely on too small a number of manuscripts to fill the gap). Under present circumstances it is not easy to decide which manuscripts count as primary for the critical apparatus; it is also difficult to find collations of some of the manuscripts that one might suspect to be primary. I have thus decided to report only on RVAMU, as Coulon does, with the addition of $t$. Other mss. are mentioned only when they are the sole witnesses for a reading. It is hoped that this selective report does not conceal anything that would help evaluate the papyrus texts any better.

I have consulted the apparatuses of Blaydes, Velsen, and Coulon; K. v. Holzinger's Die Aristophaneshandschriften der Wiener Hofbibliothek (1940) and his commentary; W. J. W. Koster, Autour d'un manuscrit d'Aristophane écrit par Démétrius Triclinius (for the Triklinian mss.; see also N. G. Wilson, CQ 12 (1962) 32 ff. (on L), and S. Benardete, HSCP 66 (1962) 24 If f. (on Vvif)); Dover, Text.; M. L. Chirico, Aristofane in terra d'Otranto (199r). I have also collated $\mathrm{P} 8, \mathrm{P}_{9}, \mathrm{P}_{19}, \mathrm{P}_{20}$, and L from the originals.

References to the scholia follow M. Chantry (1994) and (1996) for the yetera and the recentiora respectively.

4519．Aristophanes，Plutus i－16

教
$4.4 \times 10.8 \mathrm{~cm}$
Third century
Plate XVI
A fragment of a roll containing verse beginnings．There is a top margin of 2.2 cm ． The left－hand margin also measures 2.2 cm at its widest point．The beginnings of the verses move progressively leftward as the column descends（Maas＇law：see W．A． Johnson，ZPE 96 （1993） 2 II ff．）．Three lines of obscure import are written in a tiny cursive script in the margin，starting from above the column－top and ending at the level f the first line．Back blank．

The script is a medium－sized mature＇Severe Style＇．I would assign it to the early part of the third century，as a comparison with the＇more rapid and flamboyant＇GLH 21a，dated to the first half of the third century，may suggest．The cursive hand of the marginalia also points to a third century date．The scribe＇s peculiarities include $\delta$ with very broad base and（once）initial loop，$\xi$ with a comma－shaped medial stroke，and the entle leftward curvature of most descenders．The first two letters of v．i are made larger than is usual in the rest of the text；on the practice of enlarging the initial letter orour breathing twice（ $\mathrm{I}, 9$ ）and a smooth once（ 3 ），uniformly in Turner＇s form I．No other diacriticals are in evidence．

This is one of the very few papyri preserving the beginning of a work of literature As in most of them，there is no preliminary material written above the first line，which is at column－top．（The hardly legible jottings to the left of the column do not seem to （ no way of knowing whether a title or anything else was written in the space before the column．On beginnings of papyri carrying dramatic texts see W．E．H．Cockle，Euripides： Hypsipyle 219 ff ．；on book titles see GMAW ${ }^{2}$ pp．I3f．and nn． 70 and 72，and G．Bastianini，＇Tipologie dei rotoli e problemi di ricostruzione＇，Papyrologica Lupiensia 4 （1996） 26 ff．

With the exception of a mistake in 4，probably a scribal error，there is no point of textual interest in our papyrus．

|  |  |
| :---: | :---: |
| $] \bar{\omega} \eta \nu$ кaı $\rho \alpha[] \nu$ | Top |
| ］ca т $\bar{\omega}$ Boт．［ ］． |  |
|  | Sou入ov［ |
|  | $\dot{\eta} \nu$ jap［ |
|  | $\delta o \xi a l \delta[\epsilon$ |

ıат $о$ ос $\omega[\nu$
$\mu \epsilon \lambda \alpha \gamma \chi[0 \lambda \omega \nu \tau$
o]cтис ак[одоv日єє
то] $\operatorname{v\nu \alpha \nu [\tau \iota O\nu }$
oi] $\gamma \alpha \rho \beta \lambda[\epsilon \pi о \nu \tau \epsilon c$
ovтo]؟ [
mrg．The import of the marginalia is obscure．There is a numcral in the first linc，but I cannol make out much clse．Some suprascript horizontals apparently indicate abbreviations，and perhaps they stand for final nus．I have considered whether they may carry introductory material，but have not found any clue in the scholia．It may be that they bear no rclation to the text．

4 dogat：$\delta \delta \xi_{n} n$ codd．The papyrus＇reading mars the grammar．A scribal blunder is possible
$x$ corrected from
N．GONIS

4520．Aristophanes，Plutus 635－679，698－738
66 6B．4／D（1）a

$$
10.5 \times 27.8 \mathrm{~cm}
$$

Fifth century
A leaf from a papyrus codex．The ink has faded badly，especially on the $\rightarrow$ side， and in places the matching of the traces with the letters expected to be there is very uncertain．Lower margins are apparently wholly preserved，and measure 2.8 cm on the $\downarrow$ side and 3.8 cm on the $\rightarrow$ ．The left－hand margin of the $\downarrow$ amounts to 3 cm ；on the $\rightarrow$ the right－hand margin is 4.3 cm at its narrowest point．The lower part of the left－ hand edge of the $\downarrow$ page looks straight enough to have been close to the break down the central fold of the sheet．

There were 59 lines on the $\rightarrow$ side，but probably one or two fewer on the $\downarrow$ ． Assuming 58－59 lines to a page，the whole work would have been contained in 21 pages．With this format the play could not have begun at the top of a page；compare XI 1373． 58 lines would have occupied a depth of c .30 .6 cm on the $\downarrow$ side；on the $\rightarrow$ for 59 lines the column－height would be 29.5 cm ．Assuming that the ratio of the lower margin to the upper was the customary 3：2（cf．Turner，Typology 25），the upper margin
of the $\rightarrow$ would measure about 2.5 cm . The height of the codex could then be calculated at c. 35.9 cm . The breadth of the original page would be no less than 18.7 cm . It seems that the codex was more or less twice as tall as it was wide; the original sheet, before folding, will have been nearly square. Very tall codices are usually taken to belong to Turner's Group 1; none of its representatives, however, as listed in Typology 14-5, fall below 20 cm in width (this figure is the result of reconstruction; the narrowest preserved width measures 21.5 cm ). But of course 18.7 cm is a minimum estimate. There is also proximity to some of the aberrants of Group 3 (ibid. 16), namely those with dimensions $18 / 9 \times 33 / 4 \mathrm{~cm}$.

The hand is a small informal one with occasional cursive tendencies. Letter-shape and size vary considerably at times. The second, correcting, hand (see below) shows no more pretensions to formality. The general character of both would suit a date in the fifth century. They seem contemporary with $G B E B P 20 \mathrm{~b}=G M A W^{2} 23$ (2nd half of v c., as assigned by Cavallo-Maehler).

The text has received extensive diorthosis. It must have been the work of a separate diorthotes, as indicated by the difference in the colour of the ink (the copyist used a metallic ink now turned brown, while the corrector employed one that is still black), as well as in letter forms. On diorthosis in literary papyri see K. McNamee, Proc. XVI Int. Congr. Pap. (r981) 79 ff.

Breathings and accents are added in most possible instances, chiefly by the second hand. All accents are represented. Notable are the combinations of the smooth breathing with the circumflex in 644 and 734 (the circumflex is written to the right of the breathing). The grave accents are employed in much the same way as they are from the fifth century onwards, cf. C. M. Mazzucchi, Aegyptus 59 (1979) I47. They are not placed on monosyllables, nor over all polysyllabic oxytones; this was virtually the rule, cf. J. Moore-Blunt, QUCC 29 (1978) 148. The diorthotes added a few elision marks that the copyist had missed, and corrected some orthographical slips. Despite the revision, there is a wrongly placed accent (acute for circumflex in 651, but perhaps what we see now is the left-hand part of a pointed circumflex), and one instance of scriptio plena ( $\Delta$ ía in 657). Another uncorrected error seems to have been overlooked in 653 (т८aरıcтa), but perhaps the iota following tau is only an offset. Prodelision (647) is effected, but left unmarked. Crasis is noted by the scribe in 664 and the corrector in 672: the scribe used an apostrophe; the corrector employed a short horizontal, which he placed below the smooth breathing (a longum, to show that the syllable is made long by crasis?). Iota adscript is written superscript in 645,710 , and 716 , by the corrector, and is omitted in 658 (possibly also in 708). Diaeresis is written twice over $t$, once to avoid reading the sequence $v \iota$ as a diphthong ( 710 ), the other to mark the beginning of the second element of a compound (738), and once over $v$ at the beginning of a word (735), perhaps to avoid reading it with the preceding consonant (the elision mark which should have been placed between them is omitted). Speaker changes are signalled by dicola and paragraphoi; most of them are added by the first hand, but a few are in black ink, indicative of the
corrector's pen. The corrector also added a forked paragraphos between 664 and 665 (see note below).

The codex also received some annotation; there are glosses in 720 and 729 , and a variant in 729 . Both diorthosis and annotation seem to have been effected by the same hand (the same black ink), but this is not entirely certain. There is nothing to suggest that they should be associated with the stages of the production of the codex, and were not the work of the owner (on the issue see McNamee, MC 18 ; Proc. XVI Cong. Pap. 8o); after all, that was an age when readers often copied their books, cf. GBEBP pp. 3 f . Evidence of revision, often proving collation with another copy, and the presence of philological sigla have been thought to indicate books belonging to scholars (E. G, Turner, Greek Papyri ${ }^{2} 92 \mathrm{ff}$.). But the shortcomings noticed above do not seem compatible with a 'scholar's text'. Instead, the abundant accentuation may suggest a close affiliation with the school, cf. R. Cribiore, Writers, Teachers and Students in Graeco-Roman Egypt (1996) 85 .

One other fragment of a papyrus codex of Plutus assigned to the fifth century was found in Oxyrhynchus and published as XIII 1617. Unfortunately, neither the original nor a photograph of this papyrus now exist. The two papyri share the extensive diorthosis carried out in black ink, the numerous breathings and accents, and the annotation. But we are probably dealing with two different codices, since the number of lines to a page in $\mathbf{1 6 1 7}$ varies between 28-3I (its dimensions have been reconstructed at $17 \times 30 \mathrm{~cm}$, see Turner, Typology 103).

The papyrus presents a new reading in 64I and (probably) 715 , and omits a line (648) attested in all other manuscripts; there is possibly another new reading in 707. None of the novelties improves the transmitted text. Notable also are the variant in 720 , and the agreement (in error) with two recentiores in 712 , and with $\mathrm{P}_{20}{ }^{\text {ac }}$ in 738 . In general, the text of the papyrus shows no consistent support for a single ms. or group of mss.

Owing to the bad state of preservation of the papyrus, a diplomatic transcript precedes the articulated.

# ］．［．．｜v｜ <br> $\square$ c［．］．［．］．］ <br> $\nu \alpha \dot{\beta}, \ldots[] \ldots$ ．．．．．］．［．］．．． <br>   $\dot{\epsilon \nu} \delta, \ldots],[\ldots \ldots] \in \ldots \in \nu[\ldots] \ldots$ 






avvิvyєү［．］．．au：$\mu \eta \mu \epsilon$ ．［

áүоขтєє．［．．．．．．］о́тє ${ }^{2} \in \nu a$ ．［


［．］．．．$\epsilon \rho \omega$ ．［］．$\chi$. ［．．］a入áт．［］．［
－．［．］．$a \pi$ ．．．．［．］$\tau \epsilon \mu \in \nu \circ c[$
$\epsilon \pi^{\kappa} i[] \in \beta$ ．［．］．$\left.\pi o[],[a]\right] \pi \alpha \nu[$

$\dot{\eta} \mu,[\ldots .$.$] ．[]+\downarrow \beta \alpha, \alpha[$





＂тро́．［．．．．．．．$\quad$［，＂］．тссая．$L$
 ．．$[. .$.$] ］． \delta[]^{\epsilon} \varphi \varphi[]$ ．．［． $1 . v$
．．．．．｜ $\mid \tau \rho a \tau \iota \subset \in \xi \in \pi \lambda \eta$ ．
．［．．．．．$\theta \in \nu \tau \hat{\eta} \subset \kappa є \phi \alpha \lambda]$
675
［．．．］．．．［．］úpovv aıн．v．［
$\left.{ }_{2} \operatorname{cck}^{2} \lambda \eta\right] \pi[$ to｜$\hat{\nu}[$
$\lambda \epsilon ́[\gamma]$ cic $\left[\left.\mu \circ\right|_{\iota} \chi[a \rho a ́ v\right.$
$\pi \alpha \dot{\alpha} \rho \in \subset[\tau]!\chi\left[a i{ }^{\prime}\right] \rho[\epsilon \tau$









































```
    |.av...[].[......]
    1. .\epsilon...
000 ].[
        ]..[..].[
        ]..[
        l.[.].[.]\tau.v[.]..I
        |... €[]..\.].[....]:
05 l...\epsilonva,..v[.].ov
    ]скато.[']\gammaoy[.].[.].' av
    ].0ùc.\nu\epsilon. [.].[.]_..[
        ]..[.]'........].
    1. . кос\mui\omegac\pi\alpha\dot{\alpha}[
%0 ]^` '0uv .0ví. .v[
            ].!...[
            ]⿰饣บ\chi.ток[.. '.].[.] .:
    ]_....[...].\epsilon
    ]. . }
715 ].\epsilon![.] . O.[]. a
    ].\omega.єок[..\.]`., [.]нако.[
    ]'[ ].\rho'[...].[.].....
        ].v.[]\omega\nu\epsilon, ,\iota[.]. . [
        ]..[.]\gammavv.[]?%..[
    720 ]...[]\mu.[].o..[...].'[ \delta.\mu\nu\tau\alpha\tau\omega 720
        ]. a[.]\lambda\epsilon,a,€[
    ]....kp.[.]\omega.[
        ]\epsilon\inधoc. [.].[
        ]. \tau.[.]\epsilon.[.
    725 ]\omega,\epsilon\tau.[
        ]. }\mu\omega\nu\kappa.
        ]\tau\omegay\iotaa. [
        1. }\epsilon\phi\alpha\lambda\hat{\eta}\in\epsilon\phi
        ]\mu\beta\iota.\nu\lambdaа.[ \eta\mu\iota\tauv\betaıov рак..
730 ]....[.......[.]..
        ].\nu.[...].\eta\nu\phior.[.....]
        ].......[.].[]..[. .].[]\pi.[
            ]. ра́коч. к.[
            #0 :'\omegä\phii\o 0\epsilon
75 ] o[ ] cki.u\pi[]o.v[
```



```
                    ].к\pi_..oiv[
                    |. ayüc.\etaк\
                (foot)
```


## 



є́ $\beta \delta \epsilon \lambda \dot{\prime} \mid \tau\lceil\tau \tau \epsilon \tau \sigma$



1 cú $\gamma^{\prime}$ єiva t тọ̀v $[\theta \mid$ ¢òv

$\epsilon] \ddot{\theta} \dot{v} c, \nu \in \kappa \alpha \mid \lambda] v[\psi] \alpha \mu \eta \eta \eta^{v}$

$\pi \alpha \nu]$ тa кос $\mu \omega \subset \pi \alpha\lfloor\nu$

$\kappa] a i$ кı $\beta \omega$［тıov
］oúx！тò $\kappa[\langle\beta \omega \bar{\tau}]$ ！！$[0]$ ！

$] \delta \dot{\alpha} \tau 0 \hat{\alpha} \tau \rho \iota \beta[\omega \nu]$ 亿ou



$$
] \tau \rho[[\beta \in]] \nu[\varepsilon] \mu \beta a \lambda \omega \nu
$$



］$\delta \leftarrow \epsilon \in \mu \in \nu \circ c \quad C[\phi \eta \tau \tau]![\omega$


$\delta]$ é $\theta \epsilon$ òc $\gamma \in[\lambda]$ á［cac
］ката［T］єT［ $\lambda$ ac～évoc
$\pi a v ́ c] \omega$ ce $\tau \underset{a}{[a}[c$
$\delta a]!\mu \omega \nu \kappa \alpha[i$
П入ои́］$\tau \omega \nu \iota \pi \alpha \rho \subseteq[\kappa \alpha \theta \in ́ \zeta \epsilon \tau \sigma$

$\dot{\eta} \mu \tau \tau \dot{\prime}] \mu \beta \iota \rho \nu \lambda \alpha \beta[\omega \nu]$











$\pi \epsilon \rho\llcorner\hat{\eta} \lambda \theta \epsilon \tau о \cup \not \beta \omega \mu$ ѝ̀с $\alpha \pi \alpha$ ．

64 a . $\mathrm{P}[\varepsilon] a$. The reading is not entircly certain: the trace of the putative $a$ docs not exactly match the regular shape of the letter elscwhere; the next letter looks like $\tau$ at first glance, but $\rho$ is possible, if the horizontal trace on top of the upright is taken to be the lower part of the circlet of $\rho$ (it is not $\gamma$ ).





 $\tau \iota \pi \rho a t \tau \omega v$, or
scems to suil the situation. Since Chremylos' wifc appears to be intcrested in the chorus'
'on',
 must be addressing the chorus, but therc is no indication clsewhere that shc talks to them at all (Karion is the carricr of the news, which is already known to her, cf. Holzinger's note). Bither alternative may therefore bc dismissed in favour of a $\alpha \gamma \gamma \in \lambda \lambda \in \tau a u$. It is not clear how the papyrus' reading arose; the medieval tradition misrcad as ATTE) Perhaps the scribe introduced a form of $\pi \rho \dot{a} \tau \tau \omega$ under the influence of constructions of x pnctá with this verb. For a discussion of the other mss. readings see van Lecuwen, introd. to the facsimile of Ravernas p. xiv; Holzinger ad loc.; Dover, Text 235 .
[648] This verse is absent from the papyrus, but is not reported to be missing from any other manuscript. The omission is probably a simplc mechanical error: exovvv occupies the same position in 648 and 649 , and the scribe may have strayed from onc to the othcr (saul du mème au meme). I do not think that there is any inherent ground for the omission; without 648,649 secms rather up in the air. It is notable that the corrector did nothing to make the omission good. If the diorthosis was made by cons the collation copy defective at this point?

This omission acquires special interest in view of $\Sigma$ rec, 641 a , according to which the number of verses
 $\tau \rho \rho \mu \epsilon \tau \rho o{ }^{\prime}$ and
Autour d'un manuscrit $119,129 \mathrm{ff}$., but it cannot be ruled out that its source was ancient. Opinions about the origin of this discrepancy are split. It has been thought to reffect either a simple error in counting or a manuscript which did in fact contain one verse less. The omission of 712 in R (see the note below) came in handy for those holding the latter view. The fact that we now have an ancient copy of Plutus short of one line may indicate that more copies sharing the same defect circulated in antiquity. This makes it all the more likely that the scholion derives from a faulty manuscript; which line was dropped in the metrician's copy it is not possible to gucss.

650 ]c: cic AUt: $\begin{gathered}\text { ce rell. We find } \\ \text { cic ic in the next verse, and this may be what the papyrus had. It is not }\end{gathered}$ easy to decide which rcading to adopt. In 65 I the same phrase appears, but the context is different; there $\varepsilon \in \varepsilon$
 that in such set phrases ec should be preferred, sec
in the same sense as the stock phrase. But he probably makes a pun on the set phrase, and perhaps his pun in the same sensc as the stock phrase. But he prob had uscd eic. The latter would be preferable if this play
would not have been so much to the point, ir he would not have been so much to the point, in favour of reading eic in all spoken parts of Comedy cf. C. F. L. Austin, $C Q$ Ns 23 (1973) I33.
Austin, eic: so U: èc rell. Triklinios preferred to make a distinction between the two forms and keep éc only herc. For the reasons stated in the previous note I would again favour the idea that Aristophanes wrote éc.

 Atticists condemned the usc of hov́ouat, cf. the scholion ad loc. and Moeris s.v.
$660 \pi о \pi \pi a v[a$. The scribe initially wrote $\pi о \pi a \pi a v a$, a dittography, and the corrector deleted the first pha. I think he must have cancelled also the preceding pi, i.e. the text after his intervention would have been $\pi o[\pi a\rceil \pi \pi \nu \alpha$. But this pi is mostly broken, and no trace of the corrector's pen survives.
 makes the word oxytonc, and it is written so in this papyrus, and by implication in the papyrus of Herondas

$664-5 \mathrm{mrg}$. The sighum in the left-hand marg
a forked parayraphos. This is suggested by a trace opposite the linc-space between $66_{4}$ and 665 seems to level as the branches that wc see to the left. The reason for its presence here may be to set off the major speech that follows.
$665 \mu \epsilon[\nu:$ so codd. plerique: $\mu \hat{\mu} \nu \tau o t$ V. Spacing excludes that the metrically impossible $\mu \dot{\epsilon} \nu \tau o t$ was written on the papyrus.

$669 \pi[a p \eta \gamma \gamma \epsilon \epsilon \lambda \epsilon\rceil]$. I restore the correct form with RAM $t$ by reason of space; VUK omit the nu cphclkystikon to the detriment of the metrc. But with a handwriting as irregular as this considerations of

 The metre would allow either form here. The scnsc also is not decisive: in E.c. $\mathbf{c}$. . both forms appear in Satyrs, scrvants of the Cyclops. But Aristophancs uses $\pi \rho \frac{\sigma}{\pi} \boldsymbol{\sigma}$ ooc in two other passages, where it is metrically guaranteed: in $\mathcal{N u}$ u. 436 (v.l. $\pi \rho \dot{c} с \pi$-) for the ministers of the Clouds, and in fr. 705.3 for the minister of Phoibos.

 a, à Aápac.
$700-2$ Only the most meagre traces of ink are preserved on the rubbed surface. The restored text rests
argely on considcrations of spacc. argely on considcrations of spacc.

705 cy: om. U.
解
 difficulty be read as $\epsilon$. The lower traces would suggest $a$; but the upper trace, if not delusory, seems not to suit that, though it may be consistent with the right-hand part of the cap of $\epsilon$. If the papyrus had av-, that is a new reading, but corrupt (it would be senscless in the context). If it had $\boldsymbol{\varepsilon}^{\prime}$, it preserves the correct text.
 a misdivision of the scriptio continua. $\mathrm{P}_{\mathrm{B}}$ reads $\epsilon \hat{3} \hat{\theta}$ cuveкаגupáap $\nu$; if it does not derive from a Byzantine emendation, as Koster thought (op. cit. 18, 214), it may hark back to the initial stage of the corruption. It is




710 buiocov: so R: $\theta v e \AA \delta o v$ rell. Etymologically we expect $\theta v \in \hat{\delta}$ oov from original $\theta v \epsilon i a$ (Kühner-Blass, by Pollux ( $\mathbf{1 0 . 1 0 3 \text { ) and some ancient authorities recognised this (Herodian 2.457.18). But Quióov is transmitled }}$ - 6 oov may be a plain iotacistic crror, or reflect the alternative spelling $\theta$ vita.
 agreement of these two recentiores with the papyrus is interesting; but it may only be a coincidence.
 metrc. What I read on the papyrus docs not match either transmitted version, and the tracc bcfore $\epsilon \boldsymbol{\nu}$ is too
 in 653 ), unless the scribe wrote $\epsilon \chi \epsilon \omega$ (transposition). In any casc, the word order of the papyrus was not that of V .

721 єк[: ękтpétac RV: éкcтpéłac AMUt. Editorial preferences are at variance. A. v. Bamberg:
 many before him.

 genitive, which can only bc associated with $\pi a \dot{c} c \omega$, creates dificuly with the syntax, and gives inferior sense.
That $\pi$ avicu may have triggered the corruption cannot be excluded. (I rulc out that the papyrus had $\tau a \hat{c}$. That пavice may have triggered the corruption cannot be excluded. (I rulc out that the papyrus had raic
èkкגnciace, raised to the status of a varia lectio by Bergk on the falsc prcsumption that it is attested in the scholia.)
 ad loc.
 taken place in antiquity. According to Pollux, 7.71 the word is of Egyptian origin; but this may simply mean that its origin was obscure. The word is found spelt as $\eta \mu u \tau \tau u \mu \beta$ wov also in other authors, perhaps under tho influence of $\tau \dot{v} \mu \beta$ Boc, é $\bar{\pi} \tau \tau \dot{u} u \beta$ Brov, ctc. For LSS s.vv 'probably this form is due to the copyists, who wished to in its own right, and interpretations of it can be found in the Suda ( $\eta 353$ ) and other lexica.
mrg. $\dot{\eta} \mu \tau \tau \dot{\jmath} \boldsymbol{\beta}$
 by Dr. Rea.).
 a common graphic crror.

 the antiquity of the reading of $\mathrm{P}_{20^{20}}$, adopted by most editors following a correction of Meineke-the results of Koster's collation of $\mathrm{P}_{20}$ became known only in the 1950s (Blaydes reports that $\mathrm{O}_{3}$ and L d 4 offer d̀veıcтíкє!; I have not seen Ld4, but $\mathrm{O}_{3}$ has $\gamma^{\prime}{ }^{\prime} \varepsilon \in \tau \dot{\eta} \kappa \epsilon t$ ).
N. GONIS
4521. Aristophanes, Plutus 687-705, 726-31, 957-70


Three (fr. I is made up of two contiguous pieces) fragments of what used to be an elegant roll. As the different inventory numbers indicate, they were not discovered together; but we know from Grenfell and Hunt's diaries that in their sixth excavation season they returned to the mounds partly dug up in the first (this point will be discussed in a forthcoming paper by Dr R. A. Coles). Frr. I and 3 preserve c. 4 cm of the intercolumnium; fr. 2 has 1.7 cm of the top margin extant. The writing is along the fibres. The back is blank.

Twenty verses separate the end of fr. I (706; the last preserved verse is 705, but there is a trace of marginal annotation opposite the place where 706 should have stood) from the beginning of fr. $2(726)$, which is a column top. These twenty verses, or at least part of them, either (i) formed one column, or (ii) belonged to the column from which fr. I comes. If (i), the written height would be c. Iocm; the beight of the roll would hardly be more than 15 cm and the papyrus would be classified among those of
'small format'. E. G. Turner (XLI 2944 introd.) remarks that this format was used in the first and second centuries for copying poetry; of the examples he adduces none can be dated after the early decades of the second century (see also GMAW2 21, 39, 41; LIV 3725). Turner also suggests that this format is rather suitable for 'de luxe' rolls. Our papyrus has no less luxurious pretensions than the examples he cites, but it should be noted that all hitherto published annotated papyri are of a more or less 'standard' format. (The most recent discussion of the issue of 'pocket rolls' is by W. A. Johnson, The Literary Papyrus Roll (Diss. Yale 1992) 235 and n. 44.) If we opt for (ii), it follows that frr. I and 2 belong to two consecutive columns. Fr. I comes from a column that contained at least 39 verses $(687-725)$. If we assume that the full height of a column averaged 38 verses, so that 687 stood at or very near the top, $1-686$ would fit neatly into eighteen columns, and frr. I and 2 would originally belong to the igth and the 20th columns, with the whole play occupying no fewer than 32 columns. Written height could be calculated at c. 19 cm (on average letter-height and interlinear space are 2 and 3 mm respectively). Allowing at least 6 cm for upper and lower margins together, the height of the roll would then be at least 25 cm , which is fairly common, cf. W. A. Johnson, CP 88 (1993) 47. Supposing that throughout the roll intercolumnia had the same width, which never fell below 4 cm , and that the maximum line-length was c. 9.5 cm , the length of the roll may be estimated to be at least 4.30 m . But of course all these calculations assume the minimum possible column-height; other arrangements would easily be possible (e.g. 40 lines per column gives a neat result too, $\mathrm{I}-724=18$ columns).

The papyrus is written in a medium, upright, rounded hand, generally bilinear. Thin horizontals contrast with thick uprights and (sometimes) obliques. There is rich ornamentation in the form of hooks or blobs. The crossbars of $\epsilon$ and $\theta$ are usually extended to the right; $v$, made in a single stroke, has a looped base; $\phi$ has its bowl diamond-shaped. The script is assignable to the second century, perhaps around its middle. One may adduce for comparison $G L H$ irb (AD 94), although the presence of shading here points to a later date. The marginal notes are written in a smallish book hand, which may well be that of the original scribe. The formal handwriting of the marginalia is exceptional. McNamee cites only four papyri written before the third century and annotated in such book-hands; like our piece, these papyri were provided with generous margins too ( $M C$ г 0 ).

The scribe added a rough breathing (Turner's form 3) (963), an acute accent (694), and a high point $(965)$. He used systematically, but not fully, dicola at verse-ends to designate changes of speaker. Elision, where required, is marked by apostrophe. Iota adscript is not written in one case (692), whereas in another case its addition may be inferred (see 727 n.).

This papyrus is the earliest annotated manuscript of Aristophanes. There is no way of knowing whether the scribe copied the whole play first, leaving generous space
between columns, perhaps with a view to the subsequent marginal additions, as e.g. in V 841 (Pindar, Paeans), or wrote the annotations before proceeding to copy the nex column. In the latter case we may think of an exemplar equipped with marginal notes. As for their ultimate source, this is likely to have been an hypomnema. The three-line note on 70 Iff, as well as the discursive nature of the comment on 959 (and possibly 690 ), presuppose something more extensive than a simple glossary. Like most of the annotated papyri of Aristophanes, some of the notes show affinities to the medieval scholia. It is also to be noted that marginalia of similar length are rather unusual at so early a date, cf. McNamee, $M C 190$

Another interesting feature of the papyrus is the assignments of lines to speakers. In both cases that these are preserved $(959,965)$, they are not made in the customary way of inserting a (usually abbreviated) nota personae in the left-hand margin. Instead they appear as notes in the right-hand margin, and thus appear to be part of the annotation rather than conventional notae personarum. This practice is very little in evidence in the papyri (mostly in cases of antilabe within the same verse, cf. W. Schubart, Das Buch ${ }^{3} 79$ ), but finds parallels in the Byzantine scholia. There the discussions on correct part assignments indicate that 'the attribution of words to speakers was from the first treated by ancient commentators as a matter of interpretation, open to debate in any given case' (Dover, Text 254).

This is the oldest manuscript of Plutus to be published. The text offers variants (one unique at $9^{67}$ ) and a speaker attribution (965) not generally accepted. There is a slight coincidence between fr. 2 and part of $\mathbf{4 5 2 0}$.

## Fr.

## $\pi \rho \circ v \delta \iota \delta] \alpha[\xi a \tau \circ$

$\mu] o v \operatorname{\tau ov}[$
$\subset v \rho \iota \xi] a \subset \in \gamma \omega$
$\omega] v$ oфı $\quad$ o $\delta[$

]c' $\eta<\cup \chi \eta$
$\delta \rho \iota \mu \nu] \tau \epsilon \rho o ̣ v \gamma a \lambda \eta c$
$\pi o \lambda] \lambda \eta \nu \epsilon ́ \phi \lambda \omega \nu \operatorname{av\tau (\imath \tau ov)} \epsilon \theta \lambda \omega \nu$
] $о \mu \eta \nu \eta \mu \eta \nu$
o] $v \delta \in \pi \omega$
$\delta] \eta \tau \alpha \tau \iota$
| $\mu \in \gamma \alpha \pi \alpha v[v$
$\epsilon \pi \epsilon]$ фvсךто $\mu[\mathrm{ov}$
$\epsilon \beta \delta] \epsilon \lambda \nu \tau \tau \epsilon[\tau o$

$\alpha \pi \epsilon c] \tau \rho \alpha \phi \eta \quad] \kappa(\alpha,) \eta$ Паvaкє! $a[$

$\epsilon \phi \rho] o \nu \tau \iota c \in \varphi$
$\tau] o \nu \quad \theta \in O\left[\begin{array}{l}v \\ \quad \mid a \tau \eta \mu \epsilon \lambda[ \end{array}\right.$
705
1.[

690-1 mrg. We have beginnings of two lines of annotation. The second line might either continue the first, or represent a separate note (on 69I). The sinuous horizontal which runs between the beginnings of the lines might serve to mark the separation. o o [ at least should refer to 690 . There $\overline{\delta \delta \alpha \dot{\xi} \dot{\xi} \lambda \alpha \beta \beta \dot{\beta} \mu \eta \nu \text { and } \pi a \rho \in i \alpha a c}$
 foove? In 69I the only word that has attracted comment is atectacey, but what the schotia give is of no rus offered
runugac' $V$, which is not very appropriate.

 (16) 5 , 'this word is used) instead of' (E. G. Turner, MH 33 (1976) 5), as a means of introducing a gloss. It is well represented in the papyri, and of coursc in the scholia of the Byzantine manuscripts. It occurs in both hypomnemata and marginal notss, in most cascs written in shortened form, usually as $a^{\nu}$ or $a^{5}$ or $a \nu^{7}$, cf. K. McNamec, Abbreviations in Greek Literary Papyri s.vv. div it, duvi arpears regularly in documentary writing to mark a suspension, regardless of what letters are actually omittcd at the word-end; for examples in the annotation of literary texts see McNamee, op. cit. xvi.
 $a \lambda \lambda \lambda_{0} \mu \eta \nu$ probably stems from a graphic mistake.
 replacement of $\eta_{\nu} \nu$ by ${ }^{\prime} \mu \mu \nu \nu$ from the Hellenistic period onwards see B. G. Mandilaras, The Verb in the Greek Non-Literary Papyri §§ Io3, Iog. Remarkably, the gloss is not preceded by àvri (rov̂).

or a. mrg. The note is mutuated and its interpretation is puzzling. No more than two leucrs were lost orm the beginning of each line, but the amount of text lost to the right is impossiblc to cstimate precisely But if my speculations below have any chance of being right, the break to the right must have taken away The first wor
Panakeia. What the marginalia, auvitut, should refer to the female deitics appearing in the temple, Iaso Asklepios. For cxample, aûrau Accc[l $\eta$ a comment on their association, or perhaps family connection, with
 connects Panakeia with Iaso (or Hygieia, her other sister, who does not appear in the temple scene but is mentioned in the scholia); but this is only a possibility.

In the third linc $\iota a \tau$. [, given the context, recalls words such as iarpóc or 'auqpıкк;; we might restore ámò $\tau \hat{c}$ C larp $[\iota k \hat{c}$. The scholia mention that Iaso was not considered as Asklepios' daughter in Aristophanes
Amphiaraus, and stress that her association with Asklepios relics on the ctymological implications of her name;
 note is of etymological nature, and $\iota a \tau$. [ could refer to Iaso, although in that case lacic or iaceau would be preferable; but there is no way of determining whether it contained any reference to the problems regarding Iaso's relation with Asklepios. The verb of the sentencc, which is broken away, possibly preceded duó; ] might be the last letter of a verb-ending (third person singular/plural). On the assumption that etymology
 hould be undcrstood. It is also noticeable that the reference to laso is at the end of the notc, as in the scholia. would normally be expected a little further to the right, or stray ink.

704 єфploviceey: so RUV: - A .
 cannot be rulcd out). These words first appear in classical poetry (Aeschylus, Euripidcs), but are also widely distributed in the prose writers of the Roman period. I have not found this gloss in the transmitted scholia nor elsewhere in the lexicographic tradition.

Fr. 2
(Top)
$\tau] \stackrel{\iota}{ } \in \subset \theta^{\prime}$ [

$\pi \rho \omega \tau] a \mu \epsilon \nu \delta \eta \tau \eta[c$
$\kappa \alpha \theta \alpha] \rho \circ \nu \quad \eta \mu \iota \tau[\nu \beta \iota \nu$
$\beta \lambda \epsilon \phi a \rho] \alpha \pi \epsilon \rho \iota \epsilon \psi \eta \subset[\epsilon \nu$ $\kappa \alpha \tau \epsilon \pi \epsilon \tau]$ ac' $\alpha v \tau 0 \hat{v} \tau \eta[\nu$

727 raur]a: so V: тồto RAMUt cdd. Editors have favoured rồro. But cf. V. Bers, Greek Poetic Syntax in the Classical Age (I984) 22: ' $\mu \epsilon \tau \grave{\alpha} \delta \grave{E} \tau \alpha \hat{\imath} \tau a$ occurs far more often than $\mu \epsilon \tau \grave{\alpha}$ тồтo'. The same disagreement among the mss, is alsp obscrved in 678 , but note that in 697 V reads $\tau 0070$ with the rest of the mss. In 707 all mss. read $\mu \in \tau \grave{\alpha}$ a $\tau 0 \tau \alpha$.
$\tau \omega[]]$ The amount of spacc in the lacuna indicates that iota adscript must have been written,
728 万n; om. R contra metrum.
uscd with a фowvic. V's reading might

## Fr. 3

$\pi о \nu \eta \rho]$ ov $[\kappa о \mu] \mu a[\tau о с$
] $\eta_{\eta}$ rov $\theta \epsilon \frac{\nu}{}{ }^{\circ}$
]
ol] кlav ypauc ectuv $\eta \lambda_{\text {eyouca }}$
тоvт]ov $\theta \epsilon \circ v \quad \pi \rho \circ \subset ~ \tau о v ~ \chi o \rho o v ~$
960
$\eta \mu] \alpha \rho \tau \eta \kappa \alpha \mu \epsilon \nu$ :
] $\alpha \phi<\gamma \mu \in \nu \eta$
] $\stackrel{\omega}{\omega} \rho \iota \kappa \omega c: \quad \operatorname{a\nu \tau (\iota \tau оv)}$ кат $[\alpha$ кацроv
$\kappa] a \lambda \in c \omega$ т $\tau \nu a$ :
$\epsilon \xi \epsilon] \lambda \eta \lambda v \theta \alpha^{\circ} \quad$ o $\theta \epsilon \rho \alpha \pi \omega \nu$

| $\pi \alpha \rho a \nu] o \mu \alpha \phi_{\nu} \lambda \tau \alpha \tau \epsilon$ |
| :---: |
| ]..[ |
| ]. []. |
| \| $\beta$ ıov |
| сик]офаи |

| Buov

 пpoceivopau with the accusalive seems to have attracted the attention of grammarians, as emerges from Thomas Magister and the Suda ( $\pi 2654$ ).

958a Therc is a blank space separating 958 from 959.958 represcnts the end of an act and 959 the beginning of anothcr. We may think that some sort of distinction was intended hcre. It is equally possible, however, that something was written in the part now lost (our rragment preserves only line-ends). The
manuscripts of the Triklinian recension (and no other manuscripts, see Koster, Autour d'un manuscrit I2I ff.) manuscripts of the Triklinian recension (and no other manuscripts, see Koster, Autour Xun manuscrit I2I If.)
here have XOPOY, while the Triklinian scholion on 850 tesifics to the presence of XOPOY at this point. XOPOY is written at act-endings in almost all mss. of Plutus, though not consistently. It thus appears likely that XOPO $\gamma$ was written in our papyrus, which becorncs the oldest manuscript of Aristophanes to allest it.

The insertion of XOPO $Y$ between acts is a well documented practice in papyri carrying dramatic texts, especially of Ncw Comedy, from the third century BC onwards (for a discussion of the papyrological cvidence see E. Pölmann, WJA NF 3 (Ig79) 69 (ff; for the issue of the Chorus in fourth century Comedy see K. S. Rothwell, GRBS 33 (r993) 209 I. with bibliography). According to the Vita, Aristophancs put in XOPOY to If the information supplied by the $V_{2} t a$ is reliable, we have good reason to believe that XOPO $Y$ was regularly written in Plutus papyri.

XOPO $Y$ must have been positioncd in the middlc of the line (written without spaces?) as is usually the case. It is improbable that the less frequently attcsted XOPOY MEAOC was written; otherwise the last lettcrs of ME1OC might have survivcd.
 scholion recalls a tradition to which the papyrus' annotation belongs. For the wording cf. also $\Sigma$ vet. on 222:
 allows us to assert that this type of attribution goes back to ancient commentaxies. Cf. also 4508 ro-ri.

That the speaker is noted here conforms to the convention of identifying a new speaker on his/her first appearance, cf. J. C. B. Lowe, BICS 9 (r962) 30 .
${ }_{S} 93$ mrg. The traces permit restoring $\kappa a r[\grave{a}$ кaupóv, which is one of the glosses the scholia ( 963 d ) and
 doubtiu' whether sishty odd, pretily, which is sighay odd, since elsewhere the point is youth and ripeness, as c.g. at Ach. 272 שipiкク̀v
 in fact arrived); or (b) you ask thay be taken to mcan (a) you ask the question opportunely (since you have of comic cffict, in its comically inappropriate application girl (but shc is a ypaic). (b) is preferable in terms $\nu \epsilon \omega \tau \epsilon \rho \kappa \hat{\omega} c$, another of the glosses ( 963 za ); cf, also the elaborate scholia recentiora ( 063 d ) $\nu \epsilon \omega \tau \epsilon \rho(\kappa \hat{\kappa} \kappa$, another of the glosses ( $963 \mathrm{3a}$ ); cf. also the elaborate scholia recentiora ( 963 d ).

965 mrg . o $\begin{aligned} & \text { Efa } \\ & \text { ancu. As the attribution is part of the annotation, a more elaborate construction is }\end{aligned}$ in the right-hand margin; for the use of the article cf. also M. Dysk. I89 (left margin) in PBodmcr IV $\eta$ кop
 Text 260).

The papyrus coincides with RV in assigning this verse to Karion，whereas AMU assign it to Chremylos Dover observes that $V$ ，which in this act elminates Chremylos from the scenc altogether，must follow a line
of transmission deriving from ancient sources（op，cit．256）：this is now confirmed．The assignment of 965 t Karion is probably wrong，see Helzinger ad loc．Although Karion＇s presencc would exemplify the ante portos motif，a typical scenc in Comedy（for a discussion of the relevant passages in Aristophanes sec I．E．Stefanis，
 this seems difficult at this point．In those scenes the master is called out shortly afterwards，but that does not appen herc．

 Pl． 432 and $A v$ ．I20I；other doubtful passages include Pax 1041，$P l .406,607,624$

AfP 26 （r905） 40 noted that Aristophanes sometimes omits the interjection in cases of＇poctic reminiscence or parody，and indeed Rau qualifics 967 as paratragic（Paratragodia（1967）209）．But $\hat{\omega} \phi \grave{\lambda} \lambda a \tau \epsilon$ ，a common form of address in tragcdy，is often employed by Aristophanes，especially in passages where paratragedy can be detcetcd（Rau，op．cit．I44）．The few instances where the vocative stands alone can be explaincd by the context or the metre．The omission of the interjection，therefore，docs not appear to be justifiable by 199 ff．）Perhaps some scribe climinated the somewhat unusual run $\pi \alpha \rho a v o \mu \omega \phi$ ，$\lambda$ tate，especially if the elisio was not marked in his exemplar，in favour of one more familiar
Between 967 and 969 there are scanty traces from two lines；apparently the papyrus had an extra line It is worth recalling 2 rec．959a，which reports 84 lambies between 959 and ro4I，onc more than we have
 dropped out of the text as we know it；but in view of what littlc remains，it is impossible to pronounce udgment in favour of an carly interpolation or an accident in the transmission．（For another peculiar vers counting see 4520648 n ．）

N．GONIS

4522．New Comedy：pMenander
43 5B．66／E（2－4）

Ends of twenty－two lines of a comedy in a small，upright round hand，assignable to the late first or early second century AD ，are given by this narrow strip from a roll with both upper and lower margins surviving，to the extent of 3.5 and 7.5 cm respectively－perhaps therefore to approximately the original dimensions－and with the written area 13 cm tall．Very similar in script，but somewhat less generous in format， is another fragment from Oxyrhynchus with 29 line－endings from a comedy in a surviving written area of about 14.5 cm ，namely inv． 33 4B．83／E（8－II）；see BICS 3 I （1984）25－3I with Plate 1 ，where a number of palaeographical parallels are quoted， and an ascription to Menander，Sikyonios is proposed，as is noted in Sandbach，Menandr reliquiae selectae ${ }^{2}$（1990）346．In 4522 the resolution in $\left.\gamma \epsilon\right\rceil \gamma \alpha \mu \eta \kappa o ́ \tau \iota$（4）confirms the
presence of iambic trimeters rather than trochaic tetrameters，which would probably have given less even endings．See I．XII $\mathbf{4 3 0 4}$（p．if and n．）and L． $\mathbf{3 5 4 0}$（p． 80 and n．）： as it happens，the latter is another narrow strip with iambic line－endings；the script， though somewhat less formal，is comparable；the height is 25 cm ，with upper and lower margins of 2.5 and 3.5 cm respectively，and 36 lines in 19 cm

The depth of the lower margin，by contrast with L 3540，for example，and by comparison with X 1239，suggests that this may be the end of the play．In the case of 1239 （Austin，CGFP 249）all doubt was removed when the presence of the formulaic invocation to Victory，as known from the ending of Menander＇s Dyskolos and other plays，was eventually recognized by Corbato，in his discussion of the piece in Studi Menandrei（Trieste，1965）89－119，and independently by Handley，＇Notes on the Sikyonios of Menander＇，BICS 12 （1965）62，n．22．See the commentary below on 14 and 20－22． In the present case，the suspicion aroused by the format is reinforced by clues from the content，in spite of damage to the crucial words for＇torch＇（r4）and＇applause＇（20）and the theoretical ambiguity between＇goddess＇and＇sight＇in 2r．The resemblances with the surviving endings of plays known to be by Menander（exiguous though the present text is）raise a presumption that this was a copy of a play by him，or by someone who ollowed his formula closely；I have not noted a coincidence with any other text，and short of that the play＇s identity seems likely to remain undiscoverable．I have been able to check readings against a preliminary transcript made by Sir Eric Turner in January 1978 ，but he must not be held responsible for the interpretations offered．A first presentation of the text and commentary as set out here was given at the Graduate Summer School in Papyrology in Oxford on 12 July 1997.

| ］$\tau \alpha \phi \circ \rho \tau \iota o \nu[$ | ］ ¢ $\alpha$ фортióv |  |
| :---: | :---: | :---: |
| ］$¢ \tau \rho \epsilon \iota \subset \eta \mu \epsilon \rho \alpha[$ | ］¢ $\tau \rho \in \hat{\iota} \mathrm{i}$ ¢ $\dot{\eta} \mu \dot{\epsilon} \rho \alpha[$［ |  |
| ］．как $\nu^{\text {¢ }}$［ | ］．как $\hat{\nu} \nu$ |  |
| ］．аипкоть |  |  |
| $\varsigma$ |  |  |
| ］．$v \varphi$ | $\pi o] \lambda$ úc | 5 |
| ］$о$ осךкєно！［ | $\pi] \rho о с \hat{к} к$ ¢́ $\mu$ о |  |
| ］ | $]$ ． |  |
| $] v v \eta$ | $\gamma] \cup \nu \eta^{\prime}$ |  |
| ］кєルсүıvєт ${ }^{\text {a }}$ | －－］кєıк $\gamma$＇$\downarrow \in \tau \alpha[\iota$ |  |
| ］！！Tov $\theta$ op $\alpha$［ |  | 10 |
| ］$\tau \in \chi$ ¢ $\omega$ | （？）${ }^{\text {a }} \nu$ ］$\tau \in \in \chi$ ¢ $\omega \nu$ |  |
| ］ $\operatorname{coi} \lambda \epsilon \gamma \epsilon \iota$ | ］ $\cos \lambda \epsilon \in ́ \gamma \epsilon \iota$ |  |
| Jкa入ov | ］ка入о́v |  |


| 1．aı $\delta \alpha \delta o c$ |
| :---: |
| 1．укосног |
| 1．vopauc |
| ］vovel［］${ }_{\text {d }} \theta_{l}$ |
| ｜$\omega \mu \epsilon \nu: \lambda a \beta \epsilon$ |
|  |  |
|  |
| ］$\omega \pi$ \％oc $\theta \in \alpha$ |
| ouc |

$1 \delta a ̂ \delta \alpha$ סóc
］
${ }^{15}$
］．．$\nu \delta \rho \hat{a}$

$-7 \omega \mu \in \nu$ ．（ ）入aßé ］

］$\omega \pi$ ò $\theta \in \alpha ́$
－－Joic
hopriov，nbres twisted 3 ］，dot of high ink，perhaps punctuation 4 ］．，high horizontal joins a Gibres twisted
5 End of curv 5 End of curved down－soping daagonal，as for $\lambda$ ，touchies upright of $v$ ；above $v$ ， Speck of high ink；cf． 3 9］k，upper and lower arms，possibly $\chi$ not c $\quad$ Io Mid－line horizontal poins upright II Possibly to be read as $-r^{\prime}$＇exov without diastole；cf．io $c$ loping diagonal；if $\delta$ ，basc lost；$\lambda$ or a could have been written；if $\kappa$ or $\chi$ ，the upper part should show；$\pi$（fo aîoa）is excluded ${ }^{1} 5$ Upright with curved foot joins $\eta$ ；most likely $] \mu$ ；at end，$\mu, 0$ or $~, ~$ ． wo dots of ink：may be parts of an upright，sccond，apparcnly a tiangular letter．$\alpha$ suits， 19 Badly of $\hat{\omega}] Z \in \hat{\delta} \delta \dot{\epsilon}$ croca：Figh ink after $v$ could be top of $\delta$ ，but the rest，$\tau$ apart，is hard to justify，and the last two might well be oc，rather than $a$ ： 20 After cemvov，low and high ink，wih trace of rising diagonal，as $\kappa$ ；then a long descender；no clear trace of bow for $p$（though it is very small in this hand）or of riser for （which is thereforc ruled out），or of horizontal for $\psi$（which is therefore unlikcly）；end of high horizontal aftcr o
 he end of Sik，at 4 II ，could indicate a kinship of motif，and is accordingly to be noted．

9 （？）．．．à $\delta 0] \kappa \in \hat{c} \mathcal{C} \gamma \omega \tau=1$
Io $\tau 00 \theta^{3}$ ，$\delta \rho a \hat{a}$ ，＂$\phi \eta \nu$ ，at Perik． $142 / 332$ ，jilustrates $\delta \rho a \hat{c}$ in parenthesis，as it may be（but need not be）here a common motif at the end of a comedy，and can be reckoned among the signs that this picce represents onc：sce Sandbach on Dysk．964．（6 lincs before the end），citing，among other texts，Mis．459／989（8 line bcfore），Sam． $73 \times$（ 7 lines before）；Sik． 418 （ 6 lines beforc），togethcr with 1239 （Austin，CGFP 249），wher garlands are called for 9 lines before the end．Sóc，rather than ê $\kappa \delta \delta \sigma \omega \tau \not \omega$ or the likc，need not bc pressed to
 cexpected garlands can be writtcn in with equal ease，as can the torch in 1239.

 and can hardly be mcant to do anything elsc at the very end of a play than to send someone to call out another actor who is to join in：hence one can imagine a sequel on the lines of калкадєєсо⿱ avtov，iv $\left.{ }^{\operatorname{cov}} \hat{\epsilon} \ell \theta\right] \omega \mu \epsilon \nu$ ．

I8f．Possibly $\lambda a \beta \xi \in \mid \tau \eta \nu \delta \delta$（ the torch of 14 ）．If in the rest of 19 Zcus is invoked（as I cannot verify），it
 20 The word коóтov，though almost lost，secms hard to resist as a reading，the applausc appealed for
cevóc，presumably，becausc it is to accompany a $\kappa \hat{\omega} \mu o c$ in honour of Dionysus as god of the festival．So at Knights 546 f ．，the cheering that the chorus calls for in favour of Aristophanes is not just boistcrous shouting，
 and elscwhere，she is $\mu \epsilon ́ \gamma a \tau \epsilon \mu \mu \eta) N i \kappa \eta$ ，a formula which may bave influenced the choicc of the present cpithcL Nik is presumably the＇（ ）－eyed goddess＇of 21，with the name appcaring in the final line，a pattern that
persists in the recurrent Menandrian formula and its variants（see Sandbach on Dyst． 9689 and Samia 7367 ， noting also P．Harris II 172）．With the aid of borrowing from Knights（as above）and Samia，one can imagine a conclusion something like this

The consideration that $\theta \in \dot{d}$ could be read as $\theta \in \dot{e} a$ ，and $\tau \eta \lambda] \omega \pi$ róc conjectured，is not one that ought to persist against the counter－indications that the context gives．

E．W．HANDLEY

4523．New Comedy
Fr．I $243 \mathrm{BB.72} / \mathrm{C}(\mathrm{c})$
Fr． $\mathrm{I} 3 \times 4 \mathrm{~cm}$
Second century
Frr．3－5 106／70（a）， $106 / 70(\mathrm{~d})(\mathrm{I}-2)$

Five scraps written in a medium－sized informal round hand of a common type，to be compared with those of the Berlin Theaetetus commentary（Schubart，$P G B{ }_{31}$ ；Seider， Pal．II 40）and P．Mich．inv． 5982 （ZPE 2 （1968）Taf．III）and assigned to the second century $\mathrm{AD} . \delta$ has a broad base；the right－hand side of $\pi$ is convex；the loop of $\rho$ is tiny； $v$ is looped at the base；bilinearity is infringed only by $\rho$ and $\varphi$ ．Lectional signs include dicolon（fr．I．7），high stop（fr．5．2），apostrophe marking elision，a rough breathing（both fr．5．7），initial trema（fr．3．4），and acute accents（frr．1．7，3．2，due to a thinner pen）．The rota of $\omega \iota$ is added above the line（fr．3．7）．The backs are blank

Verse－ends are preserved in frr．I and 5，those of fr．I being recognizable as belonging to a dialogue（change of speaker marked in 7）in iambic trimeters or trochaic tetrameters．$\dot{\alpha}] \lambda \lambda \grave{\alpha} \tau i ́ ;$ at fr．I． 7 points to Comedy rather than Tragedy（see n．），the reference to an all－night festival as a setting for rape at fr． $3 \cdot 2-3$ ，if the verses are correctly restored and interpreted，to New Comedy in particular（references in Arnott， Alexis：the fragments， 516

Fr．I was originally edited by Marcia E．Weinstein as XXXVIII 2827；it has been re－edited by Austin as CGFPR 283，and by Kassel－Austin as PCG Adesp．i i i6．

Fr．I

```
] [
] [
]a..[ ] [
```

〕.. $\tau \epsilon$

| 5 | 1. $¢ \theta \alpha \gamma \alpha \rho$ | ]. cta $\gamma$ á $\rho$ |
| :---: | :---: | :---: |
|  | ]. $v \chi \in c$ |  |
|  | $\mid \lambda \lambda \alpha \tau i$ : | $\left.{ }^{\text {a }}\right] \lambda \lambda \grave{\alpha} \tau \tau^{\prime} ;$ |
|  | ]aıסıа |  |
|  | ]!ova[ |  |

-2 stripped $3 .[$, upright ligaturcd to $a$; two low dots, one above and to the left of the other: the whole possibly to be combined as $\kappa$ ] [, stripped 4$]$, foot of upright, spacing suggesting $\tau$ $\left.\begin{array}{ll}\text { Betwcen of, un of } \eta & 6] \text {, speck on edge, then upright } \\ \text { sccond upright }\end{array}\right]$, upper part of upright with blob finial, resembling the first $\iota$ of 1,8



7 à $\rceil \lambda \dot{\alpha}$ rí (ed. pr.): common at linc-end in Comedy (Ar. Pax 1256, Men. Mis. 168, Sam. 593), often forming, as herc, a complete sentence (Ar. Eq. 955, Ra. 488, Ec. 928, Anaxandr. fr. 50.1 KA, Antiph. fr. 105.1 KA, Men. Mis. 379 (?), Sam. 348, 450 (?), Sic. 290 (?); at line-beginning, Damox. fr. 2.46 KA); neither use is found in Tragedy.
 $\kappa \in \rho]$ did $\delta a$, and one of two with -]aı $\Delta$ aca.

Fr. 2

## ]. [

stripped
]..$\rho[$
]. [.]actı. [
5 ]u入oүov!
]. $\omega \subset \pi \in \rho[$
]ava $\rho \tau \epsilon$. [
] $\epsilon \xi \circ$. [. . ]. [
]ov [.

1 ]. [, much abraded; two letters may be representcd stroke to right: $\tau$ or $\gamma \quad 4]$. [, specks in lower half of

3 .., dot on line; upright joining cross[, high horizontal, cross-stroke or accent $6]$., top and bottom of rounded kctter

7 .[, dot on line 8 ] $\epsilon$, cross-stroke on a single fibre with trace of top . [, left-hand parts of $\tau$ or 7 : if the latter, only one letter is lost in the lacuna $][$, stroke descending from left

8 解 ${ }^{\circ} \tau[0]$ looks slightly too short
Fr. 3

| $\text { ] } \quad \varphi[.] . \omega .[$ | $\left.{ }^{\prime}\right] \pi \times \nu \nu v\left[\chi{ }^{-}\right.$ |
| :---: | :---: |
| ] $\pi \alpha \nu v v^{\text {l }}$ | ]. $\nu \beta<a \zeta$ |
| $\text { ]. } \nu \beta \iota \alpha \zeta .[$ | ]. с v่тo.[ |
| ]. сйто. [ | $\chi \lambda] a \mu v ์ \delta \alpha \kappa[$ |
| 5 ] алибак[ | ]. ¢ ооvן.[ |
| ]кат ${ }^{\text {'ı' . }}$ |  |

I ], upright .[, dot on line; surface stained at edge 3 ]., edge of upright $[$, upper left arc of circle 4 ], lower part of upright, hooked to right, with median and high dots: anomalous,
perhaps an altered or deleted letter
[, left-hand parts of $\tau$ or $\pi$ 66 , trace level with tops of perhaps an altered or deleted letter .[, lcft-hand parts of $\tau$ or $\pi \quad \begin{aligned} & 6 \\ & \text { letters, now resembling right arc of a circle, but abradcd, with prima facie a further trace bevel with tops of } \\ & {[, \text {, gently }}\end{aligned}$ letters, now resembling right arc of a circle, but abradcd, with prima facie a further trace bclow . . . gently
rising stroke level with tops of letters: $\epsilon$ and o both acceptable 7 . [, dot above level of tops of letters $8]$., foot connecting to foot of $\iota$, as of $a \quad \varphi[$, start of stroke descending from left to right; spacing suggests $v$ rather than $a$

2 E.g. $\tau]$ (the accent as at fr. 1.7). Besides $\pi a v v v\left[\chi L^{-}\right.$, there is $\left.(-)\right] \pi a \nu \nu v[-$ to be considered, but I can produce nothing plausible with it; TLG has only a few late prose instances of such a sequence.
 bcing suited to the context. qpoup- in the next line suggests that the soldier's and ephebe's 'cloak' 'cf. [Arist.]
 7 ' $\because$ ' rather thin, perhaps due to a different hand.

Fr. 4
[.]yס[
avu[
$\kappa \alpha$.
${ }^{\alpha \nu}$.
$\mu \epsilon$. [
[. .].[

COMEDT
I [.], much narrower than $a$ in $1.2 \quad 2 \tau[$, cross-stroke level wilh tops of letters, with dot in place on line for foot of $\tau$; horizontal trace at mid-etter level where ink has run along a fibre
of foot of letter ligatured to $\alpha$ of foot of letter ligatu with tops of lettcrs 6] [, speck level with prcsumed tops of letters

Fr. 5
] [.
$] v^{\circ}$
] $\tau \sigma \mu \alpha$
]
$5 \quad] \omega \nu$
$] \eta \mathrm{c}$
]. $o \delta^{\circ} \epsilon[$
]. .

7 ]., dot level with tops of letters
8 ] . [, cross-stroke level with presumed tops of letters; dot at same level


## IV. DOGUMENTARY TEXTS

4524. List of Nomes

This small fragment is complete at the right and perhaps at the foot, but is very probably incomplete at the top; it is impossible to estimate the loss at the left (though cf. line 2 n .). What survives records the names of five nomes in central and eastern Lower Egypt: Sebennyte, Diopolite, Nesyt, Arabia and Tanite. The papyrus naturally invites comparison with the nome list preserved in XLVII 3362, a list which originally included all the nomes of Egypt. The part of 3362 which survives records more or less complete lists of the nomes from the Thebaid and from Middle Egypt, a list of eleven nomes from Eastern Lower Egypt, and a further section presumably recording nomes from the rest of Lower Egypt. This last section is almost wholly lost and of the section for Eastern Lower Egypt only six nomes can be identified with certainty. The Tanite is the only nome recorded in the surviving parts of both 4524 and 3362 , though it is likely that the section for Eastern Lower Egypt in $\mathbf{3 3 6 2}$ would also have included Arabia and the Nesyt. It is, however, extremely improbable that there would have been room in this section for the Sebennyte and the Diopolite, which are much more likely to have appeared in the following section covering West and Central Lower Egypt. It may well be, therefore, that $\mathbf{4 5 2 4}$ was a list of all the nomes in Lower Egypt, not a section only It may indeed, like 3362, have been a list of all the nomes of Egypt.

Elsewhere I have argued that $\mathbf{3 3 6 2}$ dates from a period when Lower Egypt had been subdivided into two sections, each under its own epistrategus (J. David Thomas, Roman epistrategos, 35-9). 3362 is most probably to be assigned to the second half of the second century and is certainly later than AD I36/7 (ibid. 25 n. 62). 4524 is probably earlier than this and may well date from a period when there was only one epistrategus for the whole of Lower Egypt. Palaeographically I should have been inclined to assign 4524 to the second half of the first century: note in particular the way tau is written with the left-hand half of the cross-bar united in a single stroke with the hasta (cf. also the triangular omicron). There are, however, good reasons for thinking that it belongs no earlier than the reign of Hadrian (see the notes). As such the list falls between the nome list of Pliny (NH V 49-50) and the information to be found in Ptolemy (Geog. IV 5), and is likely to be contemporary with the so-called nome coins (perhaps better described as nome types), which are attested from year II of Domitian to year 8 of Antoninus Pius. For a comprehensive bibliography of work on the Roman coins of Alexandria, including the nome coins, see E. Christiansen, Proceedings 2oth Int. Congress of Papyrology, 478-83. H. Gauthier, Les nomes d'Egypte, is the most detailed survey of the nome coins for their information on the creation and disappearance of nomes, see esp.
pp．${ }_{5} 5^{6} 73$ ；cf．also A．H．M．Jones，Cities of the Eastern Roman Provinces，${ }^{2} 313^{-14}$ ． Dr Jennifer Sheridan is currently studying these coins and I am indebted to her for some information．

There are ink traces on the back．


The Sebennytc nome，situated in the north－central Delta，is attested in all the lists of the Ptolemaic and Roman periods．To the references given in Calderini－Daris，Dizionario IV $251-2$ ，Suppl．I 234 and II 186
add SB XX 14590.4 ．At some point in the first two centuries AD the single Sebennyte nome was divided into add $S B$ XX ${ }^{14590.4 \text { ．At some point in the first two centuries AD the single Sebennyte nome was divided into }}$ two scparatc nomes，see the next note．



 to ajv $\tau \sigma \pi \omega \nu$ of Arabia（sec the note ad loc．）．The expression could，however，be shortence to just apvo or
кír $\omega$ ，and wc have examples，apart from the Scbennyte，of the Diopolite and Cynopolite nomes in Lower Egypt being described as кárou to distinguish them from a Diopolite nome and a Cynopolite nome further up the Nilc． 4524 cannot be referring to Arabia or the Diopolite and we can safely reject the Saite，which appears undivided in all the lists and in any case is further west than the other nomes in our text．Unless therefore we have an unattested name for a nome，we must choose between the Lower Cynopolite and the Upper and Lower Sebennyte．The Lower Cynopolite is attested in XVII 2136 3，XLIX $34775-6$ and
P．Munch．III ${ }_{13} 88.3$（where see the note），but all these texts are from the later third and fourth centuries and P．Munch．III 138.3 （where see the note），but all thesc texts are from the later third and fourth centuries and 209，cf．XLVII 334550 with the note ad loc．，but it may well not have been created by the date of $\mathbf{4 5 2 4}$ and it has not so far been attested with the addition of $\tau \dot{\sigma} \pi \omega \nu$ to к⿺𠃊八خ $\tau \omega$ ．The most probable solution therefore is that our text referred at this point to either the Upper or the Lower Sebennyte．To restore simply $C_{\epsilon} \in[$［ $\epsilon$ yvír $\eta \mathrm{c}$

 in the enumeration of the nomes in Ptolemy IV $5 \cdot 50-51$ these two nomes do not follow one another directly． include Pachnemunis（which was the name by which the Lower Sebennyte was known in the Byzantine pcriod）immediately before the Diopolite，
However that may be，it seems reasonably safe to take our text as evidence that at the time it was written the Sebennytc had been divided into an upper and a lower section，thus creating two distinct nomcs．This
 $C_{\in} \beta$ evvínqc кdizu тóm $\omega v$ ．The division of the Scbennyte is first attested in the papyri in II 237 vii 3o，which
 8750.32 of AD 98；P．Oxy．Hels． 14 may date from AD I Io but could well be earlier，sec lincs $3-4 \mathrm{n}$ ．This implies that our text dates from between AD 98 and ${ }_{136}$ ．The evidence of the nome coins would seem to support this（apart from Gauthicr，sce ZPE 49 （1982）239－42）：coins from the Irth year of Domitian（ $91 / 2$ ） and r th year of Trajan（109／10）record simply a Scbennyte nome，but in the 1 rth year of Hadrian（ $126 / 7$ ） they also record a Lower Sebennyte，CEBEK．This suggests that there was only one Sebennytc nome until
some time between $109 / 10$ and $126 / 7$ ．

We also necd to consider the cvidence of XVIII 2199．In his introduction the cditor comments that the text supplies us with a new strategus of the Sebennyte nome and that＇in col．i 23 we may most probably
rectore the name Iulius Pardalas，who is known as idios logos for AD I23．．．．Therefore the document may be dated in the reign of Hadrian；in col．ii I2 a thirteenth year occurs，but this may be a year of Trajan＇ Only part of this papyrus has been published，but a study of the original confirms the statements of the cditor
 is virtually certain．The text should therefore date from after $122 / 3$ when Pardalas was in office（BGU $250=$
 papyrus has ］．$\nu$ roo $C_{\epsilon} \beta \in \nu v v_{\mid \tau o v} \delta_{l}{ }^{\prime} \dot{w}_{\varphi} \delta[$ ．The damaged letter at the start might be omega，so that a readin such as $\tau \hat{\omega}$ refers to the Sebennyte as divided or not．
 Diopolite sec Gauthier，op．cit．165－8．It is not mentioned in Ptolemy．This is very odd，since Ptolemy implying the existcnce of a Diopolite in Lower Egyp．Furthermore，we know from the nome coins that a implying the existence of a Diopolite in Lower Egypt．Furthermore，we know dat diopolite，$\triangle I O \Pi K$ ，was in existence by at least $126 / \%$ ，well before the date at Ptolemy was writing．It is worth noting that the nome is never attested with the description кáт $\tau$ тón $\omega \nu$ ；it appears either

 start of the next line．At least two papyri refer to a nome simply as $\Delta$ somodirpc without furthcr qualification when they mean the Diopolite in Lower Egypt：P．Ryl．II $4^{27}$ frag．2，cf．frag．I（late 2nd／early 3rd cent．） and IV 616 （312）
3 ］cce кai Necút；ccc cannot be the ending of a nome name and in any case，in view of lines 2 and 4 we should not expect kal bcfore the name of a new nome．Of gcographical names attcsted in this area of
Lower Egypt the most promising is Panephysis：this is known to have becn the metropolis of the Nesyt nome and was the name by which the area was known from the fourth century onwards，see Dizionario IV 37 ， Gauthier，op．cit． $169-70$ ，and Jones，op．cit． 337 and 343 ．What survives of the damaged lettcrs before cic is consistent with $\phi v$ ，so that we may with some confidence suggest the rcading Пavé $] \phi u c c c$ ．This would be the first occurrence of the name on a papyrus．Why the metropolis should have been mentioncd as well as the nome is unclear．A comparable expression cannot have been used in the casc of the Diopolite in line 2.

For the Nesyt nome，which was situated somewhere in the north－cast Delta，sec Gauthicr，op．cil．168－70． It occurs in Ptolemy（IV 5.52 ），but is not in Pliny．On the coins it is first attested in year 14 of Trajan （I 10／ 11 ）．Apart from 4524 the only papyrog 4i 30 （late rst cent．）．

4 ］$]$［ ．．．c：there is no serious doubt over the reading of the top of a large beta，after which there is room for four or at most five letters before the final sigma．Therc is，thereforc，insufficient room to read $\Phi_{a \rho]} \beta[a u \theta i \tau \eta]$ c or $\left.B o v\right] \beta[a c \tau i \tau \eta] c$ ，and $A \theta \rho \tau \beta[i \tau \eta]$ c is too short；these are the only known nomes which includ beta and are situated in this part of Egypt．There would be just enough room for $K a j \beta[\alpha c i \tau \eta] c$ ，but this nom would be out of geographical order since it belongs much further west．Indeed，the nomes occurring in linc， I－2 belonged to Acgyptus in the fourth century，whereas those occurring in lincs 3－5 belonged in Augustamnica．This supports the idea that the list has some geographical basis and that the nomes are being given in an order running from west to east（cf．，however，the next paragraph）．A possible solution nome metropolis rather than a nome．Thcre would be enough room to read $\Phi_{\alpha \rho]}\left[\beta\left[\alpha i \theta_{0}\right]\right.$ c or $\left.B o v i\right] \beta[\alpha c \tau 0] c$ ，which are both in the right geographical area．Note also that the nome list in the Revenue Laws，col．31，refers to


Apaßia：a nome of this name，situatcd in the east of Lower Egypt，appears in all the lists except Strabo． For its position and extent sec the important discussion in LX 4063－7，introd．The order in which it occurs here is slightly odd，since in some Byzantine lists Panephysis＝the Nesyt and Tanis＝the Tanitc are in Augustamnica I，whereas Arabia is in Augustamnica II（scc Jones，op．cit．549）．

5 On the Tanite see Gauthier, op. cit. 13-I6. It lies in the north-cast of Lower Egypt and occurs in all
c lists. Sce Dizionario IV 354 and Suppl. II 205. The Tanitc and Arabia both occur in IV 709 as two of the nomes for which the connentous was to be held in Pelusium.
J. DAVID THOMAS
4525. Town Council Proceedings

## $31 \mathrm{~B} 8 \mathrm{I} / \mathrm{D}(4) \mathrm{a}$

$$
13.8 \times 44 \mathrm{~cm}
$$

The papyrus is broken at left and right and at the foot. The amount lost is uncertain, but since no connected sense can be made of what survives, the lines were probably of considerable length (cf. however line 19 n .). It is clear that we have a fragment of the minutes of a town council. Similar papyri are listed in A. K. Bowman, Town Councils of Roman Egypt, 32-4; add XLIV 3187, XLVII 3340, Stud. Pal. XX 58 (=V 7-9), P. Genova II 67 , P. L. Bat. XXIII, pp. 99-100 ( $=$ P. Erlang. 18), P. Stras. IX 8i6, P. Bodl. I 68(a), SB XVIII 13174 ( $=$ Archiv $4,115 \mathrm{ff}$ ) and SB XX 15026. The present papyrus, like most of those just cited, no doubt refers to the council of Oxyrhynchus. On the whole subject see Bowman, passim, especially pp. 32-39. We should distinguish verbatim accounts from extracts made from minutes, perhaps for private purposes (cf. Bowman, 37, and 3187, introd.). The present text falls into the former category. It is probable that the surviving fragment records the minutes of two different meetings (see line $19 n$.).

The reference on the second side to the prefect of Egypt Flavius Hyginus serves to date the text approximately to 331. Not much can be gleaned concerning the subjects under debate in our text (see the notes). On topics known to have been discussed in town councils see Bowman, Chap. 4.

The format is particularly interesting. At the top of one side is the number $I_{7}(\iota \zeta)$ and at the top of the other side the number $18(\mathrm{l})$; therefore what is preserved is a leaf from a codex, and our text is to be added to the small number of documentary codices which belong to a relatively early date, i.e. to the fourth century. On documentary codices see Jean Gascou in A. Blanchard (ed.), Les débuts du codex, 7i-ior, and Jennifer A. Sheridan, in P. Col. IX, pp. $7^{-16}$ (I am grateful to Dr Sheridan for making this information available to me prior to publication). P. Col. IX of the mid 320 s is the oldest certain documentary codex; but there is a strong possibility that $\operatorname{LX~4075}$, which is probably to be dated to 318 and may be even earlier, is a leaf from a codex (see the discussion in the introduction). These are the only documentary codices older than 4525. It is likely that it comes from a single-quire codex, since most examples from this period are of this type. If so, since $\downarrow$ precedes $\rightarrow$, what we have is most probably a leaf from the first half of such a codex (see E. G. Turner, The typology of the early codex, 65-7). There is a sheet
join visible on the recto side of the original roll. There is no reason to doubt that all third-century examples of council minutes were written on rolls, as would be expected (this is certain in some cases, e.g. XII 1414, Stud. Pal. XX 58 , P. Bodl. 68(a), SB 13174 ) and I know of no other council proceedings which are certainly in the codex form. The minutes of a public meeting preserved in XXIV 2407 are on both sides of the papyrus and are continuous from front to back, which suggests we have a leaf from a codex. But if so, the width of the page at 37 cm would be very large indeed: Turner, Typology, 32, describes XX 2258 (Callimachus), with a width of $37 / 38 \mathrm{~cm}$, as having 'an enormously broad page'. 4075 was also of considerable width, a minimum of 25 cm .
$\downarrow$ ] $\zeta$ [



]. [. ] ]ac фаvєр $\hat{c} \kappa \alpha \tau \alpha \theta \epsilon ́ c \theta a \iota ~ \eta \tau \in \lambda![$







]. . . $\varphi \tau \alpha$ єìкосє ỏфєì $\lambda$ ovcı $\lambda a \beta \epsilon i ̂ v ~ \mu o ́ v a ~ . ~[~$




$$
\text { ]. . }[\ldots] \ldots \ldots
$$

$\rightarrow \quad]$
门 [

20

$\delta \pi] \rho u(\tau \alpha \nu \iota c) \epsilon i ̂ \pi(\epsilon \nu) \cdot \tau 0 \hat{\tau} \tau$

]. $\lambda \epsilon \omega \dot{\omega c} \kappa \alpha i$ ov̉ $\chi \rho \grave{\eta}$ av̇тòv єic $\tau o \hat{v}[\tau] o$ v́ vo $\beta \lambda \eta \theta \hat{\eta}[\mathrm{vai}$
]. öcovc каì vôv vi $\pi \epsilon \beta$ à $\lambda a \tau \epsilon$ oủ $\lambda \dot{\prime} \operatorname{cov} \tau a \iota ~ \tau \eta[$





 $\mu \epsilon \rho \iota c \theta \in \epsilon \in[\nu \tau \omega \nu$

 $\epsilon \hat{i} \pi(\epsilon \nu) \cdot \pi \rho o ̀ ~ \tau o \hat{v}$
 ]. 'Tou入ıa [pò ]c $\lambda$.


$8 \hat{\eta} \mu \hat{\omega} \nu$ corrected from




I For numbers at the head of a column of council minutes see Stud. Pal. $\mathbf{X X}{ }_{58}$; cf. numbers at the foot of a column in SB XVIII 13174
2 The reference to $v i \lambda \eta$ here and again in lines 12 and 16 suggests that the whole of this side may have dcalt with the same subject. It is likely that there was some dispute over payment to workmen, for which we can compare XII 1414, csp. lines 12-16, and in general Bowman, $87-90$ and $94-8$. What $v^{2} \lambda \eta$ means in the present context is not clear. The roference may simply be to wood which is connected in some way with the
work being performed by the smiths (linc work being performed by the smiths (linc 4); but it is perhaps more likcly that we have a reference to a

 ald
itacism; but the epsilon after $v \pi$ o $\delta \in \xi \eta \tau$ has a prolonged final stroke and so appears to be at the end of a word.
3-4 P. Laur. IV 155 contains a request to the prytanis of Oxyrhynchus from tò kowvòv têv Xaikéwv for payment for work done on the baths. This suggests that in line 3 the prytanis is speaking.



 read $\delta \dot{\prime} \kappa \alpha, \pi \epsilon \mu \pi[$ ( $\delta \epsilon \kappa \alpha \pi \dot{\epsilon} \nu \tau \epsilon$ cannot be read).
$8]$. $\left.\tau_{\tau} \uparrow \dot{\eta} \mu \hat{\omega} v:\right] \hat{d} p \tau i \dot{\eta} \mu \hat{\omega} v$ is possible (and cf. the critical note).


II ] $\delta a c$ : the trace at the start would permit alpha; read $\mu \nu \rho \rho \bar{d} \dot{\alpha} \delta a c ?$
 There is no possibility of a reference to the 'old Ptolemaic coinage'

13 It is not possible to read tádavтa at the start of the line; perhaps a participle ending -evra.
14. At the start $\left.\left.{ }^{\epsilon}\right] \rho[\gamma] \dot{c}\right\} \epsilon \tau a u$ is possible.
$5 \Delta t o c] \kappa o[v \mid p i d \eta c:$ although kappa and rho are not easy readings, the name is probable. There is a well-attested logistes of Oxyrhynchus Valerius Dioscurides alias Julianus, for whom sec LIV, pp. 223-5, and add now LX 4092. It is pointed out in LIV, p. 225, that he is often referred to as Dioscurides without the alias Julianus. The traces do not allow a reference to Asclepiades, known as logistes at Oxyrhynchus at abou this period (LIV, p. 227). If the reference is to this Dioscurides, we should no doubt restore $\lambda_{0}$ $\varepsilon\{(\pi e v)$, cf. XVII 21107 and 13 , since Dioscurides was out of office by the 330s (LIV, p. 225)

at lambda is far from certain and the trace before this, though compatible with upsilon is minimal, even if $u \lambda \eta<$ is right, other restorations are possible (e.g. we could have just $v \lambda \eta c$ and be dealing with the topic discussed on the previous page). Neverthcless, minutes of the council regularly start with the expression $\beta$ Bovi $\hat{\eta}$ oűche (sce below) and it would make good sense for minutes of a new mecting to start at the top of a new page. A serious problem arises, howcver, from what follows: normally the minutes have at this point a specch by the prytanis or some other member of the council, or, in the case of extracts, a statement of the prytany to which they are to be dated (c.g. VIII 1103, XVII 2110). XLVII 3340, which reads ßou入रेc oúcnc кai
 bvouaciav кт $\lambda$., i.e. ßoviरोc ovic $\eta<$ comes in the middle of a sentence. The broken letter in our text after $\tau 0$ looks most like alpha or delta, then a small hole follows, but no letter may have been lost. After this there is the end of a horizontal dash over the line plus a vertical stroke, which runs over the first two letters of eic Does this mark an abbreviation or a numeral? If the latter, we could read $\tau \grave{\partial} \delta^{-}=\tau \grave{o} \tau \epsilon \tau \alpha \rho \tau o v$, or $\tau \grave{\partial} \dot{a}^{-}=$ тò $\pi \rho \omega \hat{T} \boldsymbol{v} \nu\left(\right.$ cf. L $\mathbf{~} 3586{ }_{5}$ ?). Could the latter refer to the first in a series of items to be discussed at the curren meeting? It must be admitted, however, that this is without parallel in comparable documents.
 not at the start of the full record, we could have a new entry which recorded no more than the day's date,
of 33405 and 22 , and P. Erlang. 18.20: is there no doubt refers to the date at which the meeting was held, as the editor assumed, though it is taken differently by Wegener in her republication (for which see P. L. Bat XXIII, pp. 99-101). This would, however, imply a very short restoration at the left and, since we must assume that the numeral in line 18 was centred, further imply a line of only about fifty letters. This seems unlikely in view of the impossibility of making connected sensc of what remains. This problem is cased if we suppose that the month was mentioned as well as the day, which is certainly possible, especially if it wer he first meeting in the month in question
20 Onc expects ] $\delta \delta \epsilon c \pi \sigma \tau \eta<\mu$ ov (cf., e.g., LIV 3759 I2), but the trace at the start docs not look compatible with omicron.

21 ff . Whatever may be the relationship of the two prcceding lines, it is clear that from here until at east line 25 , we are dealing with appointment to a public office, a recurring feature of council proceedings se Bowman, $98-107$. Later on, from line 29 or earlier, the meeting seems to have concerncd an argumen over the payment of transport charges.

21 . $\ddagger$ occ: there scems to be too much ink at the start for just omicron, but I cannot suggest any reading other than ofoac, even though the second person singular is somewhat unexpected. Elsewhere the prytani seems to add̈ress the councillors in general, e.g. lines 11 and 24
íkavòv $\pi \rho o ̣$ ẹc tò $\beta o[:$ cf. P. Lond. V 1649 quoted below. This suggests that we should restorc here $\tau \grave{o}$


22 a $\mu \pi \pi \in \lambda \kappa \kappa \tau \dot{\eta} \tau o \rho a:$ vcry little remains of the damaged letter after $a \mu \pi \in \lambda$, but there is not room for re not close parallels. Nonetheless the word ser compounds of $-\kappa \tau \eta \tau \omega \rho, \lambda \epsilon \pi \tau о \kappa \tau \eta \tau \omega \rho$ and $\pi \rho \circ \kappa \tau \eta \tau \omega \rho$, Grammar, $118-19$.

The letters after ${ }^{\circ} \nu \tau a$ (cf. critical note) are either crossed through or corrected.
23-4 $\dot{\text { vinoßa}}{ }^{\alpha} \lambda \lambda \omega$ is often used of irregular nomination to office, but it is clear that it can also be used of legitimate nominations: see 2 PE 88 (r991) 122 n. 5, and N. Lewis, Compulsory Public Services,2${ }^{2} 62$.

24 inteßidate: on the form see B. G. Mandilaras, The Verb, $\$ 317(2)$.
25 J Bodeac: beta is a very probable reading. We should no doubl

 P. Petaus 49 and P. Mich. XI $618.14^{-15} \mathrm{n}$. At P. Lond. I $649 . \mathrm{II}-\mathrm{I} 2$ the men nominated are said to be

ac申o. . $\mathrm{proc}[$ [ in between the alpha and the phi there is a small hook, which may be a sigma or may be
just a link stroke. just a link stroke.

26 Flavius Hyginus is known from only four papyri, P. Sakaon $44=$ P. Thead. 17 , its duplicatc P. Turner 44 (ncither of which bears a date), P. Col. X 288 (3I December 330) and PSI 767 of 331 . References in cf. also J. Lallemand, L'administration civile, 241 I-2. see G. Vanderscyen, Chronologie des preffets d'Egypte, 121-2;

no more than a curve leading into the tau and that the correct reading is becn eta and the tau following is the problem remains of the mcaning of копپ in this context. A reference to the tax кожो rexzoc (on which see $\bar{J} 7 P_{1} 16-17$ ( 1971 ) II 1 -22) is most improbable. We presumably arc concerncd with men chosen to supervise the cutting of something, perhaps the cutting down of trees. The council minutes preserved in SB XX 15026 refer to the prohibition of cutting down persca trecs; cf. also PSI IV 285.13 (from Oxyrhynchus).



Otevcov apyupicuv; this text is contemporary (341) and rclates to the vestis militari.
$31 \pi a p,:$ restore $\pi \alpha \rho a c[\chi \in \theta \hat{\eta} v a l$ ?
 33 It seems to have been the normal practice in minutcs of meetings to give a speaker's name before
his office or cx-office, except in the case of the prytanis, which suggcsts that
 in expendiure by towti councils see Bowman, 90 and 97 .

35 This may well be an indication that a certain Julianus joincd in the debate and we could supply is known frem Oax or $\lambda[0 \gamma \kappa c \nmid \eta$. A Flavius Julianus, logistes, son of the former logistes Valerius Dioscurides, is known from Oxyrhynchus at precisely this period: see LIV, pp. 225-6
J. DAVID THOMAS

## 4526. Instructions from the Strategus to a Banker


#### Abstract

$203 B .30 / G(I-3) \mathrm{C} \quad 13.4 \times 24.7 \mathrm{~cm} \quad$ December 69/January 7o(?)


The papyrus is complete at top, right and left, though there are several holes of which the one in lines $20-22$ is considerable. The last line extant preserves the end of the body of the document, but there is a paragraphos under this line which suggests that the papyrus would originally have gone on to include a copy of the subscriptio, now lost. The hand is an untidy, sprawling cursive typical of the later first century. The back is blank.

The text is an instruction from the strategus to a public bank to pay half of the $\nu \alpha \hat{v} \lambda o v$ due to eleven $\delta_{\iota \epsilon p a \mu a \tau i ̂ \tau \alpha \iota ~ f r o m ~ O x y r h y n c h u s . ~ T h e ~ f u l l ~ v a v ̂ \lambda o v, ~ p a y a b l e ~ o n ~ t h e ~}^{\text {a }}$
transport of wheat to Neapolis, had been fixed at 35 drachmas per ioo artabas. Such instructions ( $̇$ èvctá $\mu_{\mu \alpha \tau a}$ ) were regularly issued by strategi to bankers, as we know from requests to the strategus to issue them and from acknowledgements to the bankers of the receipt of payments authorised by the strategus. Examples of requests from the Roman period are XLI 2958-9 and XLVI 3290. Acknowledgements are relatively common, e.g. in the long roll made up of SB XVI $13060+$ BGU XIII $2270+$ P. Ber Frisk I + P. Graux III $30+$ P. Col. II I recto 4 (see P. Graux III, pp. $1-4$ ) there are no fewer than 64 (P. Graux III, pp. 8-9). It is therefore rather surprising that very few ${ }^{e} \pi \iota c \tau a \dot{d} \lambda \mu a \tau a$ from a strategus to a banker dating from the first four centuries AD are known (for the late Ptolemaic period see, e.g., BGU VIII I749-1751). Apart from 4526 there are only LX 4059, P. Graux III 30 col. 7, and perhaps P. Stras. VI 541 (the last two, like 4526, are copies). This is the more remarkable as a number of examples do exist of analogous orders from the strategus to sitologi to issue amounts of grain, most often as seed-corn, see LVII 3907-9, introd.; these orders are formally very similar to 4526, especially in the inclusion of the statement that the royal scribe must also concur Note also BGU VII 1564, an order from tax collectors to a banker to pay an advance to weavers, and SB XVI 13049, with P. Graux III, p. 55.

Of the acknowledgements referred to above the most interesting for comparative purposes with 4526 are those coming from tradesmen involved, like the $\delta \iota \in \rho \alpha \mu a \tau i \tau \alpha$ here, in stages in the transport of grain to Alexandria: see P. Berl. Frisk I, passim, BGU XIII 2270, P. Col. II I recto 4 cols. 18 and 19, etc. On the transport of grain in general see the bibliography cited in the introduction to LVII 3912. It is somewhat unexpected to find $\delta \iota \epsilon \rho a \mu a \tau \imath ิ \tau \alpha \iota$ associated with boats sailing as far as Alexandria; see further line 5 n .

In lines 14-24 eleven $\delta_{\iota є p a \mu a \tau i \tau \alpha \iota}$ are listed, each name being followed by two figures for artabas and then an amount in drachmas. At first sight one might suppose that the higher of the two figures for artabas represented the tonnage of the individual boats and the lower figure the amount actually carried. The correct explanation, however, which I owe to Dr John Rea, is that the higher figure represents the lower figure increased by an amount of $6 \%$. It would in any case be totally unexpected to find boats recorded with tonnages such as 3 18, 371, 212 and 424 artabas. The tonnage of boats used on the Nile has recently been studied by I. J. Poll in Archiv 42 (1996) 127-38. He demonstrates that it is normal for the tonnage to be given as a multiple of 50 in amounts over ioo artabas, and in multiples of ten for boats of less than roo artabas, and he is able to show that apparent exceptions to this rule depend on misreadings. It is to be noted that payment in $\mathbf{4 5 2 6}$ is in all cases made on the smaller of the two amounts. It would appear that each $\delta \iota \epsilon \rho \alpha \mu \alpha \tau i \tau \eta c$ was made responsible for a particular amount of grain, in each case a round figure, but was required in practice to be responsible for this amount plus $6 \%$. It seems that in addition to this the state made a further deduction from the sum which it actually paid out (see lines $25-7 \mathrm{n}$.).









ıо ои̉сıакòv vimò $K \lambda \alpha u \delta i ́ o v ~ \Theta \epsilon ́ \omega v o c ~ к а \theta а \rho o ̀ ̀ ~ a ̉ \pi o ̀ ~$


$\tau \hat{\omega} \nu$ сvгท́n $\theta \omega c$..... [.]. $\lambda \lambda о \mu \in ́ \nu \omega \nu$.
$K \iota \lambda \iota \kappa \hat{a}!I I . . \tau . v \dot{a} \gamma \omega \gamma \hat{\eta} c \dot{a} \rho \tau \alpha \beta \hat{\omega}(\nu) \overline{\phi \lambda}(\dot{a} \rho \tau.) \phi(\delta \rho.) \pi \zeta(\tau \rho \iota \omega ́ \beta o \lambda o v)$


A $\mu$ óıть . [.]. a a ovc á $\rho \tau \alpha \beta \hat{\omega}(v) \tau \iota \eta(\dot{\alpha} \rho \tau$.) $\tau(\delta \rho$.) $\nu \beta(\tau \rho \iota \omega ́ \beta o \lambda o v)$
C $\alpha \rho \alpha \pi i ́ \omega \nu \iota$. . $\eta \iota o() \dot{\alpha} \rho \tau \alpha \beta(\hat{\omega} \nu) \tau \alpha \alpha(\dot{\alpha} \rho \tau.) \tau \nu(\delta \rho.) \xi \alpha(\grave{o} \beta$.


${ }^{'} H \rho \alpha[$ с. $6 \dot{\alpha} \rho \tau \alpha \beta \hat{\omega} \nu c i] \beta(\dot{\alpha} \rho \tau.) \subset(\delta \rho.) \lambda \epsilon$
Mo.[ c. 9 ] а́ $\rho \tau \alpha \beta \hat{\omega} \nu \tau \iota \eta(\dot{\alpha} \rho \tau.) \tau(\delta \rho.) \nu \beta$ ( $\tau \rho \iota \omega ́ \beta o \lambda о \nu)$

$\Delta \iota o \nu v c i \omega \omega \iota \Delta i[o \nu] u c i o(v) C \alpha \pi \rho \omega \nu() \dot{\alpha} \rho \tau \alpha \beta(\hat{\omega} \nu) \tau \iota \eta(\dot{\alpha} \rho \tau$.$) т$







[^1]'Copy. Claudius Herodes strategus of the Oxyrhynchite to Theon and partners, bankers of the public funds of the same nome, greeting.

Pay, with the concurrence of Hermaeus the royal scribe, to the undermentioned dieramatitae from the city of Oxyrhynchus (2nd hand) on their(?) joint responsibility (Ist hand) half of the freight charges which have been fixed in accordance with the traditional practice(?) at the rate of 35 drachmas per one hundred artabas, on condition that they shall deliver to Neapolis at their own risk the usiac wheat which will be loaded for them by ClaudiusTheon, free from any malpractice. The calculation of the half of the freight charges for that which they take on board, apart from the monthly supplies(?) which are customarily taken on board in addition(?) [is]:

To Kilikas son of Plates(?) for carrying 530 artabas, (payment) for 500 art., 87 dr . 3 ob.
To Heracles son of Heracles for carrying 530 artabas, (payment) for 500 art., 87 dr. 3 ob.
To Harpalus son of Harpalus for 318 artabas, (payment) for 300 art., $5^{2}$ dr. 3 ob.
To Amois son of ... for 318 artabas, (payment) for 300 art., 52 dr .3 ob .
To Sarapion son of ... for 37 I artabas, (payment) for 350 art., 6I dr. r ob.(?)
To Papontos son of Syrus for 318 artabas, (payment) for 300 art., 52 dr .3 ob.
To Horus son of ... for 212 artabas, (payment) for 200 art ., 35 dr .
To Hera- ... for 212 artabas, (payment) for 200 art., 35 dr .
To Lo- ... for 318 artabas, (payment) for 300 art., 52 dr .3 ob.
To Hermous son of Damarion for 424 artabas, (payment) for 400 artabas, 70 dr .
To Dionysius son of Dionysius son of Sapron(?) for 318 artabas, (payment) for 300 art., 52 dr. 3 ob.,
making a total of $75^{2}$ drachmas 3 obols, out of which deduct the percentage which has customarily been credited to the imperial fiscus, and get from them the usual receipt. Year 2(?) of Imperator Caesar Vespasianus Augustus Tybi ..., dies Augusta.'

I (Tíberius) Claudius Herodes has hitherto becn attested as strategus of the Oxyrhynchite only in P. Berl. I (Tiberius) Claudius Herodes has hitherto becn attested as strategus of the Oxyrhynchite only in P. Berl.
Möller 2=SB IV 7339 (Vcspasian) and XLIX 3508 (I6 April 70), see G. Bastianini and J. Whitchorne, Strategi Möller $2=$ SB IV 7339 (Vcspasian) and XLIX 3508 ( 16 April 70 ), see G. Bastianini
and Roval Scribes of Roman Egyt, 88. On the date of $\mathbf{4 5 2 6}$ see lines 28 n . and 29 n.
and Royal Scribes of Roman egypt, 88 . On the date of $\mathbf{4 5 2 6}$ see lines 28 n . and 29 n .
2 A firm of public bankers with the title Theon and partners also occurs at Oxyrhynchus in II $243=$ M. Chr. 182 (79) and I 50 (99-100); see R. Bogacrt, ZPE rog (r995) 151-7.
 трat., vel sim., and editors have nearly always assumcd the correct title is $\delta \eta \mu o ́ c o o ~ \tau \rho a \pi \epsilon \zeta$ לica. Sophic Kambisis, however, has pointed out (P. Graux III, pp. Io-1 1; cf. already, Bogacrt, op. cit. I52 n. 85) that examples in which the first word is written in full as $\delta \eta \mu o c(\omega \nu$ are not at all uncommon: she notes 14 instances in the long


 for the title.
 from the strategus of the type discussed in the introduction. It is attested from the middle of the first century ${ }_{B C}$ (numcrous cxamples in BGU VIII, also XIV 2368; but note already P. Gronf. II $23=$ W. Chr. I 59 of
 ratliche Komatransport, 24-5.
Betwecn lambda and iota in $\beta$ acidıкov there is an additional stroke, which is not part of the tail of rho

 XXXI 250 with the words ( 700 ) $\delta \eta \mu o c i o v \pi v p o 0$. Various spellings are used and the etymology is obscure, see 1251216 n . Therc has been much dispute over their meaning, but the explanation offered in LVII 3912 II-12 n . (where carlier bibliography is citcd), that $\delta t$ tefack 'refers to the transfer of grain by means of lighters or tenders from the granaries out to the large cargo boats which were unable to get into the harbour' is now generally accepted; see also P . Köln V 229 , with line 21 n . The present text does not wholly suit this but that of making the whole journey down river to Neapolis, presumably from the Oxyrhynchite nome. We know that smaller boats could make such journeys, as is attested for example in X 1260. Indeed, when the level of the Nile was low it would have been essential to usc smaller boats (cf. Börner, op. cit. 30, and A. J. M. Mcycr-Tcrmecr, Die Hafung der Schiffer, 4) and that may be the explanation in the present text.
 $\dot{\eta} \mu$ ivaudov: it was common practice in private shipping contracts for payment to be made partly in
advance and partly on delivery: see XLV 3250 I2-15, cf. XLIX 3484 II-12 n.; see also Meyer-Termer, op. cit. 12 with n. 166 . For $\gamma_{\mu}$ ivaviov used in an official context see P. Harr. II 197,23 . For the payment of

usual practicc'. Alternatively one might think of a meaning 0 , where it is taken to mean 'in accordance higher authority',

7 On the rate of charges for watcr transport sce Börner, op. cit. 36-7, A. C. Johnson, Roman Egyph, 407-8, and O. M. Pearl, TAPA 83 (1952) 74-9, with a table on p. 77 . To the evidence cited by Pearl add now the following: P. Lond. VII 1940 (Zenon), between 12 and 22 drachmas for transport of roo artabas of grain within the Delta; SB XVI r2810 (Zenon), 25 dr. (distance and cargo unknown); XLV 3250 (c. 63 ), 28 dr. for 100 artabas of ${ }^{\text {dack }}$, and XLIII 3111 (257),

$0^{-9} \tau \omega$. may mean that the post of vav́kinpoc was by then a liturgy. It would, however, be very hazardous to argue from the occurrence of this clause in 4526 that the $\delta \iota \epsilon p a \mu a \tau i t a u$ were already liturgists in the reign of Vespasian (we know that the post was a liturgy by the late second century from P. Tebt. II 328 ; see N. Lewis, Compulsory) Public Services, ${ }^{2}$ s.v.); ; note that they here receive payment for the transporting of the grain.

9-10 $\pi v \rho[\partial े]]$ oủcaakóv: no othcr occurrencc of this phrase is known to me, but cf. the reference to

exandrian citizen with holdings of usiac land in the Oxyre Tiberius Claudius Theon who was an important


 According to Meyer-Termeer, $112-13$, the inclusion of vavtuкरुc is significant and one wonders whether it has been omitted by accident in the present text.
${ }^{11}-13$ The grammatical construction of $\tau \dot{\alpha}$ cuvayóneva is unclear. It may be just in apposition to $\eta \boldsymbol{\eta} \mu$ ivaviov in linc 6 , but it seems preferable to understand a heavy stop after какovpy[a]] and take what follows as a new sentence, with $\hat{e c r i}$ ठé or equivalent understood.
certain as the papyrus is badly damaged in the middle (cf. LSY s.v.). The participle used of them here is


 Пגároy, which is attested in SB XX ${ }^{14088.10 \text { (first published in AegYptus } 69 \text { (1989) 37-9, where see the note); }}$ cf. also Stud. Pal, X in6.1.
4526. LNSTRUCTIONS FROM THE STRATEGUS TO A BANKER

191
 Youtie, Scriptiunculae II 819.

 II 80.144.

Strictly the amount due on 350 artabas is 6 I drachmas $\mathrm{I} \frac{1}{2}$ obols, but it is unlikely that anything was written after the symbol for one obol.
the grandfather (though rov̂ would be expected); cf. LV $\mathbf{3 8 0 4} 72$ n. The name is unattested, but Carpiou is quite common.
25 The individual amounts in lines $14-24$ are all certain or guaranteed by the figure for the number of artabas, but they add up to only 6383 drachmas, a sum which cannot be read in this line. The sum certainly ends in 2 dr .3 ob., and there is no real doubt about the nu ( $=50$ ) before this. The only plausible figure
ending in 52 dr . 3 ob. which is a multiple of 17 is 752 dr . 3 ob. Only a horizontal stroke at the start survives ending in 52 dr .3 ob. which is a multiple of $17 \frac{1}{2}$ is 752 dr .3 ob. Only a horizontal stroke at the start survives
of the first letter/figure of the numeral, but this would seem to be consistent with psi (there is no othcr psi in the papyrus with which to compare it). A sum of $752 \frac{1}{2}$, however, involves adding $113 \frac{3}{4}$ to the total of lines $14-24$, the equivalent of the amount due for an additional 650 artabas. The simplest explanation is to suppose that the scribe making the copy missed out by mistake one or more probably two individual entrics.
${ }^{25-7}$ On $\mathfrak{t}_{\kappa \alpha a \tau o c \tau a \ell}$ in connection with shipping contracts cf. XXXIII 2670 34-6 n., XLIX 3484 ${ }^{1} 3-15$ n., and Meyer-Termeer, op. cit. $17-18$, who speaks of amounts of $\frac{1}{2} \%, 1 \%, 5 \%$ and $10 \%$; for a very
early example see now P. Prag. I 54.4 (AD $19-21$ ). Meyer-Termecr, howevcr, is concerncd only with additional amounts, not a deduction as here. Such deductions are commonly attested in the early 4th century, usually in connection with vestis mihitaris, and are always of $6 \frac{1}{2} \%$. A few documents from the Roman period show a deduction of $6 \frac{1}{2} \%$, for which see P. Graux III, pp. $54-7$. In our text the percentage is not specified and it should be noted that at this period a deduction of $\mathrm{r} \frac{1}{2} \%$ is also attested, as in P. Köln II 94 ( 213 ), where see the note to lines $24-6$.




 P. Beatty Panop. I. 39

27 入ápect; all he paralels would lead us to expect this word, but it is not an easy reading; in particular the initial letter is not at all like the writer's other lambdas. $\delta \in \xi=\bar{\xi} \alpha \theta \epsilon$ cannot be read.
28 A different stratcgus was in office by Vespasian's fifth year, scc Bastianini and Whitchorne, op. cit. 89 . Beta is a doubtful reading, but is less improbable than the alternatives.
 but is less likely. The first letter after $C_{\epsilon} \beta a c \tau o \hat{0}$ is most like tau, hencc the reading suggcstcd. In the reign of
Vespasian $C_{\epsilon} \beta a c \tau \eta$ is attested for the 8 th in BGU III 98 ri. 35 (Pharmuthi), II 276.4 (Scbastos = Thoth), and I $165.26=$ BASP 31 (r994) $23-6$ (Mecheir; see the note ad loc.), the 2oth in BGU $98 \mathrm{I} . \mathrm{iii} .5$ (Pharmuthi), and the 2 rst in XLIX 350837 (Pharmuthi; see Hübncr's note in the original publication in $Z P E 24$ (1977) 53).
J. DAVID THOMAS
4527. Tax Account
$4^{6}{ }_{5}$ B. $5 \mathrm{I} / \mathrm{F}(2-4) \mathrm{b}$
$12 \times 26.5 \mathrm{~cm}$
After 28 August 185 Plate XVII

This document, preserving the ends of lines from one column and a few initial letters from the next, relates not to Oxyrhynchus but to the Arsinoite nome. Its main
interest comes from the huge figure of over 800,000 artabas of wheat in 7, apparently the total revenue from wheat taxes for Heracleides' division of the Arsinoite nome for the 25 th year of Commodus ( $184 / 5$ ). See further 7 n .

This piece was cut from the document and has survived because it was re-used on the back for a letter (4544) which was sent to Oxyrhynchus.

## Col. i

 ]


Kоцно́] $\delta о v$ 'Avт $\omega \nu$ ' [ $\nu]$ ov Kaícapoc
]. ( $\pi v \rho$. à $\rho \tau.)(\mu \nu \rho .)^{\pi a}{ }^{\prime} \Delta \omega \xi \beta \mathrm{L} \gamma \kappa \delta \mu \eta \rho_{5}$
] (àpт.) ( $\mu v \rho$.) ${ }^{\text {e }}{ }^{\prime} \Delta \omega \mu \alpha \kappa^{\prime} \delta^{\prime}$
](àpt.) ' $B \geqslant \lambda$
](áp .) ${ }^{2} A \tau o \in \mathrm{~L} \gamma \kappa \delta$
] (apт.) $\nu \eta \iota^{\prime} \beta^{\prime}$
] (ápr.) a
] ( ${ }^{(\alpha} \rho \tau$.) $\ell \beta \iota^{\prime} \beta^{\prime}$
є́ $\delta \eta \lambda] \omega \dot{\theta} \eta \subset \alpha \nu \mu \in \mu \in \tau \rho \hat{\wedge} \subset \theta a \iota$
]. $\tau о v ~ М \epsilon с о \rho \eta ̀ ~(\pi v \rho . \alpha \dot{\alpha} \tau \tau)(\mu v \rho.) \kappa \beta ' \Gamma \phi \pi a \gamma \iota \beta$
$](\dot{\alpha} \rho \tau.)(\mu v \rho .)^{\beta}{ }^{\prime} \Delta \phi \pi \theta \mathrm{L} \mu \eta$
]
$\xi_{5} \mathrm{Ld}^{\prime}$
'].
Jof the division of Heracleides
]
]the preceding strategus Apollonius
5 ]in respect of the taxes of the 25th year of
]Commodus Antoninus Caesar
](artabas of wheat) $814,862^{1} 2_{3}^{1} 3^{1}{ }^{1} 4^{1} 4^{1}{ }^{1} 96$
](art.)
$54,84 \mathrm{I}^{1}{ }_{24}$
](art.)
2,930
$\begin{array}{rc}\text { Io } & \text { (art.) } \\ \text { 1(art.) } & 1,375^{1}{ }_{2}{ }^{1}{ }_{3}{ }^{1}{ }_{24} \\ \text { ](art.) } & 58^{1}{ }_{12} \\ \text { ](art.) } & \mathrm{I} \\ & \mathrm{I}^{1}{ }_{12}\end{array}$
Jwere declared to have been paid
${ }_{15}$ I. Mesore (art. wheat) 223,581 ${ }^{1} 3^{1}{ }_{12}$
](art.)
$24,589{ }_{2}{ }^{1} 48$
]
$66^{1}{ }_{2}{ }_{4}{ }_{4}$

I The trace is a large oblique stroke, perhaps attached to a number (cf. i7 where a similar stroke marks a fraction) or forming part of an abbreviation. Part of upsilon is also possible, alchough the examples surviving in the text do not have this form.
 less as part of the correspondencc of the strategus of that division whose name will have been lost to the left here. Cf. the next note. Then it was re-used in the Heracleopolite nome, when Eudacmon sent his letter (4544 3) to Hegumenus, who presumably lived in Oxyrhynchus.
 Arsinoite nome from 2 May 184 to August 185, see G. Bastianini-J. Whitehorne, Strategi and Royal Scribes 22-3. This span covers almost all of the 25th year of Commodus ( $184 / 5$ ), sce $5-6$. An acting-strategus was in post on 18 September, and a proper replacement (Apollotas) by November-December, see BastianiniWhitehorne, op. cit. 33. Since not only is Apollonius now out of office, but the implication of lines 5 and 15 is probably that Commodus' 25 th year has ended, 4527 must be dated after 28 August 185 . This also gives us a terminus post quem for dating the private letter 4544.
5-7 The account that follows is apparently dcaling with the taxes for a whole year: inè̀ pópuv кє
 half of the column is missing.
7 The figure here is strikingly high, although not without parallels. BGU VI 1217.31 (2nd cent. BC) has an amount of 835,000 artabas of wheat, but the purpose of the text is not clear. In BGU VIII 1760.21-23 ( $51 / 50 \mathrm{BC}$ ), we find a mention of 600,000 artabas, but this covers the whole of the chora, as the text, a letter
 $\pi v \rho o \delta(\mu v \rho$.$) ). H. C. Youtie published a tax account for the Oxyrhynchite nome in the 4$ th century AD in by R. S. Bagnall/K. A. Worp in $7 P E$. 37 ( 1980 ) $263-264$. The total figure there for the grain taxes of the Oxyrhynchite nome, 321,278 artabas of wheat, is much lower than ours. This account docs not follow the same pattern as our text and it is hard to understand the relationship between the next figures in our account; all headings before our figures are missing. When one compares Youtie's figure with ours, one wondcrs whether ours is too high to represent the amount of wheat collected for Heracleides' division alone.
Moreover, according to Bagnall and Worp, the tax rate in the Arsinoite would have been lower than in the Oxyrhynchite. Neverthcless, there are several ways in which the discrepancy betwecn the figures could be explained:

1. The whole Arsinoite nome had an estimated surface of 435,420 arouras ( $=1200 \mathrm{~km}^{2}$ ) in the Ptolemaic period, sce D. Rathbone, PCPhS 36 (1990) I30, whereas the Oxyrhynchite nome covered 202,544 arouras $\left(=560 \mathrm{~km}^{2}\right)$ of arable land in the first half of the 4 th century AD , see Rathbonc, art. cit., 125. Given the fact that Hcracleides' division amounted to roughly half of the Arsinoite nome (see map in P. Tcbt. II, pl. II), and notwithstanding the fact that the respective figures differ considerably in time, the Oxyrhynchite nome and Hcracleides' division probably had more or less the same surface under cultivation. However, the Arsinoite is known to have been intensivcly cultivated; this could have led to a considerably higher output than in other nomes, see R. S. Bagnall, TAPhA 115 (1985) 306.
2. Youtic's document is over a contury later than $\mathbf{4 5 2 7}$, and conditions of management could have
3. Climatic variations between two harvests could have made a difference to yields, although D. Bonneau, Le fisc el le Nil 251 , does not attributc any extraordinary quality to the flood of 184 , the flood which would have determined the quality of $185^{\prime}$ s harvest.
P. SCHUBERT
4. Report of Public Doctors
$69 / 37(a)+70 / 19(a)$

$$
12 \times 24 \mathrm{~cm}
$$

6 May 336
Under this number we republish LXIII 4366 together with an additional fragment which adjoins at the foot and completes the document. We now have a much clearer picture of the medical condition of the person examined. The new piece also contributes the exact date of the submission of the report. VI 901 and its duplicate LIV 3771, likewise addressed to Flavius Julianus, date from five days earlier (I May).

For a list of doctors' reports hitherto published see $\mathbf{4 3 6 6}$ introd. (para 4); add now LXIV 4441 cols. i ( $=$ SB III 6003), ii (316), and 4529.

$\Phi_{\alpha \kappa о и ́ v \tau о v ~ \tau \hat{\omega} \nu} \lambda \alpha \mu(\pi \rho о \tau \alpha ́ \tau \omega \nu)$.




 $\pi \rho v \tau \alpha \nu \epsilon v ́ c \alpha \nu \tau о с \tau \hat{\omega} \nu \alpha v ̉ \tau o ́ \theta l, \stackrel{̈}{\omega} c \tau \epsilon[\dot{\epsilon} \pi]![\theta \epsilon \omega]-$
[ $\rho \hat{\gamma}<\alpha \iota \tau \grave{v} \nu]$ тov́тov $\gamma \in \omega \rho \gamma o ̀ v$, " $A \pi \iota \nu$ той $[\nu о \mu \alpha$, ,




$\omega \mu[0] \pi{ }^{\omega} \lambda \alpha ́ \tau \eta \subset \pi \epsilon \lambda \epsilon \iota \omega \mu \alpha ́ \tau[\iota 0]$. . . . [ c. 6 ]


ö $\pi \in \rho \pi \rho \circ \subset \phi \omega \cup о \hat{\mu} \mu \in \nu$.

(m. 2) $A \cdot \hat{v} \rho(\dot{\eta} \lambda \iota o c) \Delta \iota \delta \nu \mu о с \dot{\epsilon} \pi \epsilon \epsilon \dot{\delta} \epsilon \delta \omega \kappa \alpha$.

 15 1. àyк仑̂̀oc extensions in 18-19

6 тєोıшиátiov corr. from тєри-
$13 v$ of a $\mu u \chi$ ác corr.
I4
In
'In the consulship of Virius Nepotianus and Tettius Facundus, viri clarissimi.
'To Flavius Julianus, administering the office of the syndic of the Oxyrhynchite, from the Aurelii Theoninus and Heron and Didymus and Silvanus, public doctors of the same city.
'We were instructed by Your Diligence, as a result of a petition submitted by Aurelius Ptolemaeus, ..., former prytanis of this locality, to examine his farmer, Apis by name, and report this person's condition in writing. Wherefore we examined him ... having on the right part of the neck skin wounds, and ... shoulder-blade a slight bruising ..., and on the right elbow a skin wound, and on the lower right eyelid a slight bruising, which we report.

> 'In the aforesaid consulship, Pachon in.'
> (2nd hand) 'I, Aurelius Didymus, have submitted this.'
> (3rd hand) 'I, Aurelius Heron, have submitted this.'
-5 The same four public doctors submitted XLIV 3195 ii of 331, and in all probability I 52 of 325 , cf. $43664^{-5}$ n. Two of the doctors, Heron and Didymus, were also concerned with VI 896 of 316 (a photograph shows that their subscriptions are in the same hands as herc). An Aurelius Heron, son of Heron alias Dionysius appears in LIV 3729 9-10 (307), and it may be that we are dealing with the same individual in all thesc cases, see note ad loc. (Note thal from 325 onwards the doctors no longer state their patronymics.) There is no way of knowing whether Didymus, one of the four doctors involved in 4370 of 354 , is the sam The number of pub

Ther in Oxyrhynchus poctors in each municipality was fixed, see 4366 introd. It may be worth considering whether in Oxyrhynchus public doctors were four in number, at least for the pcriod 316 to 354 . We know
of four doctors active in 316 (Heron and Didymus in 896, Aurelius Sarapion, son of Herodotus in 4441 i, and Aurelius Dioscorus, son of Heron in 4441 ii), while a collcge of four doctors appears in 52 (probably), 3195 ii, 4528 and $\mathbf{4 3 7 0}$ (354). But in $\mathbf{4 5 2 9}$ of 376 we find threc public doctors. Whether this significs a decrease in the number of doctors, or is a coincidence, therc is no means of telling.
7 Irodemaio[v. This former prytanis is not known from elscwhere, cf. 43667 n . In view of tpuraveícavzoc
line 8 , it is likely that some other office held by Ptolemaeus followcd at the end of this line, probably
 expect it to have followed after прvтaveúcayzoc.
13 dauxác. See also 15 . The only other papyrological occurrences of the word are I 52 is and XLIIV 3195 ii 46 . The word thus seems peculiar to reports submitted by the same doctors, see above 4-5 n.
 $455 \cdot 14^{-15}(\mathrm{r} 78)$, $\mathbf{4 4 4 1}$ i ro (316).
 uniformity in reports submittcd by the same doctors (cf. above 13 n .), either form seems to have a better claim as a supplement than [ 80 ob in 5217 .

19-20 Only two of the four doctors, Didymus and Heron, added their signatures; Theoninus and Silvanus did not subscribe. In 3195 ii we find the signatures of Theoninus, Heron, and Silvanus, but not that and Heron).
4529. Report of Public Doctors

The upper part of a report submitted by a college of three doctors to the logistes concerning the examination of a stationarius at Oxyrhynchus; the lost portion will have contained the details of the latter's medical condition. Compare LIV 3729 9-10 of 307, where the person examined is a ducenarius.

The text provides a fixed date for the logistes Flavius Macrobius; he may well be the same as the Macrobius in P. Wash. Univ, I 54.5, assigned to the fourth/fifth century, see below 3 n. His predecessor is likely to have been Flavius Sarapodorus, last recorded as logistes in XLVI 3310, of 26 January-24 February 374. Macrobius' nearest known successor is Paulus, attested in office on 2 September 38i (PSI X 1108). The Oxyrhynchite logistae attested from after 346 are listed by P. J. Sijpesteijn, K. A. Worp in M. Capasso et al., Miscellanea Papyrologica II (Pap. Flor. XIX) 518 .

The back, so far as it is preserved, is blank.









scanty traces on loose fibres

4 1. Euboaíhovoc; -oc added
6 1. ${ }^{2} \mu \mu \varepsilon \lambda \epsilon i a c ; \beta \imath \beta \lambda \iota \delta \bar{\omega} \bar{\omega}$

In the consulship of our masters Valens for the 5 th time and Valentinianus iunior for the ist time, perpetual Augusti, Pauni 28.
'To Flavius Macrobius, logistes of the Oxyrhynchite, from the Aurelii ... and Dionysius and Eudaemon, the three of them public doctors of the same city.

We were instructed by your Diligence, as a result of a petition submitted to you by Flavius Philoxenus, stationarius, to examine his condition and report in writing Wherefore we examined him in the city ...'

1-2 For the conversion of the date see R. S. Bagnall, K. A. Worp, Chronological Systems of Byzantine Egyy 100, 114. For the consuls see R. S. Bagnall et al., Consuls of the Later Roman Empire 287
 גove[ [ccevicavooc is also possible). It is tempting to identify his father with Flavius Julianus, another Oxyrhynchite
logistes, who also held a number of other important posts, see LIV pp. 225-6, and LX 4086, 4090, $\mathbf{4 0 9 2}$. Flavius Julianus was the son of another logistes, Valerius Dioscurides alias Julianus, see $\mathbf{4 0 9 2}$ introd. If the identification has any chance of being truc, this would be the fourth generation of this important Oxyrhynchite family to be known to us.

Therc is a possibility that this Macrobius is the same person who figures as Flavius Macrobius mo òvcevó-
 conceivable that we arc dealing with the same curialis in both cases, despite the absence of status indication (although the person mentioned next in this money account is a Flavius; in line 2 pl. XIIa suggests reading
 who appears in VII 1048 II, i4, likewise assigned to the late fourth/early fifth century. (Other Oxyrhynchite boat owners of the period arc known to have been curiales and to have hcld semior offices in the local ${ }_{36-7}$. In XVII 2110 23, of 370 , there is a riparius called Macrobius; the connection of the ripariatc with the curial class is well-known, and we know of curatores such as c.g. Eulogius and Dionysarius, cf. LIV pp. 228-9, who also became riparii at some stage of their careers. The Macrobius in SB XVI 12523 (394), an official order regarding taxation issucs, is obviously a person of some standing, cf. M. Manfredi, Scritit Montevecchi
 cf. F. A. J. Hoogendijk, ZPE 112 (1996) 172 on a 3-4-such $\dot{\varepsilon} \pi \mu \mu \in \lambda \eta 7 a t$ were councillors, of. P. Turncr ${ }^{45.6 \mathrm{n}, \text {, P. Laur. }}$ these are the same. Note that XVII $\mathbf{2 1 1 0}$ besides the riparius also attests a Macrobius son of the Boudeuric Theon (3, et passim); and we know nothing about the progeny of the well-known logistes Flavius Paeanius alias Macrobius, for whom see LX $\mathbf{4 0 8 9}$ introd. The Macrobius $\grave{\alpha} \pi \grave{o} \grave{\eta} \gamma \epsilon \mu \nu \nu \hat{\omega} v$ in 408933 , of 351, is perhaps
 the provenance of the document is unknown, but Oxyrhynchus seems a good candida
${ }_{\Delta}{ }^{\text {toveciov. }}$. This public doctor is not otherwisc known.
 letter in the line (he did this also in lines 3 and 7), and later added oc. In LIX 4001, assigned to the late fourth century, a Eudaemon writes back to his family at an iarpeiov which seemingly served as their home, presumably in Oxyrhynchus. A doctor named Eudacmon is the sender of the unprovcnanced letter P. Fouad 80 , assigned to the fourth century, but an identification sccms impossible. The Ictter mentions a financial transaction; the sum of money involved in it, thrce talens (1)
years of the century.

8 cratuevap[iov. On stationarii and their grades see LXIII 43822 n . with the literaturc cited there; to the examples one can cull from the latest version of the DDBDP (PHI 7) add SB XX 15185.9 (VII). They were originally army officers in charge of police duties, but later the term was used with rcterence SB police
officers of a lesser rank. Philoxenus' status designation Flavius squares with a military capacity; and SB XVIII 13251.4-5, only four years earlier than our text (372), attests a stationarius of the higher level, rlavius Ammonius. Stationarii of the lower sort turn up in $\mathbf{4 3 8 2}$ of 383 (or thereabouts, see rn.), and from then on most of the stationarii who occur in the papyri are of that variety.

N. GONIS
4530. Undertakings to Serve

7 rBi/XI-XII(c)

$$
11.5 \times 17 \mathrm{~cm}
$$

17 and 18 November 288 (?)
 The first is mostly complete except for the loss of the first two or three lines; of the
second, apart from the same loss at the top, only the left-hand portion survives. The main hand of both documents is very similar and may well be the same. The back is blank.

Both texts are similar undertakings, on oath, to help with providing bread for the soldiers. In the first the writer specifically states that he will go upriver to work at the bakery at Panopolis and the same was probably true in the second document. The drafting of tradesmen for this and similar purposes is discussed by F. Oertel, Die Liturgie, $82-88$ and 431 , who stresses that it was a practice which had developed by the early Byzantine period into (p. 85) 'ein allgemeines System der Beschaffung von Arbeitskräften fur staatliche Betriebe'. In addition to the evidence quoted by Oertel see that referred to by E. Wipszycka, Chr. d'Egg. 35 (1960) 214-15, and H. Braunert, Die Binnenwanderung, 314-5; add XLVI 3308. In 4530 the tradesmen are bakers. The requisitioning of the services of bakers from the Arsinoite for bakeries at Memphis is attested in P. Sakaon $23=$ P. Théad. 38 (324) and for bakeries at Alexandria in P. Sakaon 25 $\mathrm{iv}=\mathrm{P}$. Théad. $3^{6}(327)$, and of bakers from the Panopolite to serve in $\tau \dot{\alpha} \kappa \alpha \dot{\alpha} \tau \rho \alpha$ in the Upper Thebaid in P. Beatty Panop. I. $77-9$, 188-91. On similar services required for the army in Egypt in the Diocletianic period see A. K. Bowman, BASP ${ }_{15}$ (1978) 34-38.

It is noteworthy that the writer of the first document has provided no less than three guarantors, all of them comarchs, whereas the writer of the second provides the usual single guarantor. Formally the oaths sworn by the writers of $\mathbf{4 5 3 0}$ are more or less identical to those sworn by liturgists or their guarantors, of which lists are given in N. Lewis, Compulsory Public Services of Roman Egypt, ${ }^{2}$ II7, and W. M. Brashear, BGU XIII, p. 68. For similar oaths sworn by persons other than liturgists see Lewis, op. cit. 84, n. I7, and A. Jördens, P. Heid. V, pp. 205-6. The addressee in both documents is lost but was undoubtedly the strategus. He is the recipient of all undertakings of this kind until the introduction of the logistes at the beginning of the fourth century (cf. Lewis, op. cit. $8_{4}$ ). The most remarkable feature of the present papyrus is that it comes from the Heracleopolite nome, to which all the four villages mentioned belong. This would not be surprising in the Roman period; at that time strategi served in a nome which was not their idia and we have numerous papyri which they must have brought back with them to their home nome after their period of service elsewhere was over. Are we to suppose from the present document that this was still the rule in the early years of Diocletian's reign? This would be the easiest explanation for the presence of this papyrus at Oxyrhynchus; cf. perhaps XLIII 3123 with line $3 n$.

The texts were written on two consecutive days, but the year is uncertain. It belongs to the period when Diocletian and Maximian were sole emperors, i.e. before the creation of the Caesars on I March 293. The extreme limits therefore are 17-18 November 285 to 17-18 November 292. Year 5 and 4 seems the least improbable reading, but the figures are very damaged and cannot be regarded as at all certain; see further line 38 n . We have no evidence for special military activity in the Panopolite region at this time in contrast to the middle and late 2gos, for which see Bowman, BASP $\mathrm{I}_{5}$ (1978) 25-38.
[ c. I4 ].[.]..[ c. 5
[Ko] $\lambda_{\varphi} \varphi \tau \alpha \theta[\underline{\nu}]$ ? . [.]. Nivw. онодо-
[ $\gamma \hat{\omega}$ ob] $\mu \nu \dot{̀} с \tau \grave{\eta} \nu \tau \hat{\omega} \nu \kappa \nu \rho i \omega \nu \dot{\eta} \mu \hat{\omega}(\nu)$

$5 \quad\left[C_{\epsilon} \beta\right] a c \tau \hat{\omega} \varphi$ тúx $\bar{\eta} \nu \dot{\alpha} \nu \in \lambda \theta \in \hat{\imath} \nu$
 [тท́cac] \#au $\tau \hat{\varphi}$ каAapovpүíc̣ $\tau \hat{\varphi}$ vinף-
 $\gamma \in \nu p a \iota o \tau a ́ \tau \omega \nu$ стратєшт $\omega$ к каі̀














 $\left[\mu \eta \epsilon^{i} \delta \dot{\delta} o ́ \tau \omega\right]$.

## Col ii

(m. r?)
$\left.\Delta_{\iota o}\right] \kappa \lambda \eta \tau \iota[\alpha] \varphi\left[\begin{array}{l}0 \hat{v} \kappa \alpha i]\end{array}\right.$
$M \alpha \xi_{\varphi}[[]] \nu \nu \hat{v} C_{\epsilon} \beta a c \tau[\hat{\omega} \nu \tau u ́ \chi \eta \nu \quad$ ảv-]


$30 \quad \underset{\epsilon}{\epsilon} \gamma \alpha \tau \iota \kappa \hat{\omega} \subset \dot{v} \pi \eta \eta \rho \epsilon \tau \sigma[v \mu \epsilon ́ \nu \omega \tau \hat{\eta}]$
$\dot{\alpha} \rho \tau о \pi о є \epsilon i \alpha q \tau \hat{\omega} \nu \gamma \in \nu[\nu \alpha \iota \sigma \tau \dot{\tau} \tau \omega \nu]$ страть $\omega \tau \hat{\omega} \nu$ каі $\pi[\alpha \rho \alpha \mu \epsilon \nu \in i ̂ v]$
 $\dot{\epsilon} \mu \alpha v \tau o \hat{v} \pi \alpha \rho \alpha \mu o\left[\nu \eta ิ \subset ~ \epsilon ่ \gamma \gamma v \eta \tau \eta ̀ \nu \quad A \dot{v} \rho \eta \eta^{-}\right]$

 $\dot{\varphi} \mu$ одó $\gamma(\eta \subset \alpha)$. vacat [ (єँтоис) $\epsilon \mathrm{S} / \kappa \alpha i, \delta S / \tau \hat{\omega}[\nu$ кирі́шv $\dot{\eta} \mu \hat{\omega} \nu]$

 $\ddot{\mu} \mu \alpha<\alpha$ тòv ö $\rho[\kappa о \nu \dot{\omega} \subset \pi \rho о ́ к \epsilon \iota \tau \alpha \iota$.



45
үрани́ $\mu \tau \omega \nu$.[

'.. Kolintathyr and(?) Nino. I agree, swearing by the genius of our lords Diocletian and Maximian Augusti, to go upriver to Panopolis and to serve in the bakery which is serving the provisioning of the most noble soldiers and to remain there until release or may I be liable to (the penalties of) the oath. I have provided as my sureties Aurelii Ammonius son of ... from Toou and Sarapion son of Hatres from Nino and Soterichu son of Germanus from Kolintathyr, all comarchs, and in answer to the formal question I have given my assent.

Year 5(?) of Diocletian and year 4(?) of Maximian our lords the Augusti, Hathyr 21.
(2nd hand) 'I, Aurelius Melas have sworn the oath as aforesaid.
'We, Aurelii Ammonius and Sarapion and Soterichus, guarantee him and have sworn as aforesaid.
'I, Aurelius ..., have written on their behalf as they do not know letters.'
(Ist hand?') '... by the genius of Diocletian and Maximian Augusti to go upriver to Panopolis and to serve ... efficiently(?) serving the baking of bread for the most noble soldiers and to remain until release. I have furnished as surety for my remaining Aurelius Anupis son of Leo ... of the village of Sobthis and in answer to the formal question I have given my assent.
'Year 5(?) and year 4(?) of our lords Diocletian and Maximian Augusti, Hathyr 22.' (3rd hand) 'I, Aurelius ..., have sworn the oath as aforesaid.
'I, Aurelius Anupis, act as surety for him as aforesaid.
'I, Aurelius Pouar(?), have written on their behalf as they are illiterate.'
${ }^{2}\left[K_{0}\right] \lambda_{\text {curap }}[i] \rho$. [.]. Nivw: both villages are attested for the Heracleopolite nome, although for Nino A. Caldcrini, S. Daris, Dizionario, III 363, give only one referencc, SPP X 5.7 (where it is mentioned next to Ko $\lambda($ ( $)$ (vvaaOVि $\rho$ ) see $D_{i z i o n a r i o, ~ I I I ~ I ~}^{3} 2$ and Suppl. I 176 .

The obvious restoration is $\kappa[a]!$ Nivw, but the occurrence of two village names at this point is hard to explain. One would expect $\dot{\delta} \mu 0 \dot{\delta} o y \hat{\omega} \hat{\omega}$ to have bece preceded by the idia of the person(s) conccrned, which cannot be the case here: only one man is swearing the oath and so cannot have two village names for his idia. The possibility has been considered that we have a single village described as $[K o] \lambda \mu \psi \tau \alpha[[i]] \rho \pi[\epsilon \rho]$ ? Nive This could be a way of describing Kolintathyr as a village in the toparchy of $\Pi_{\epsilon \rho \hat{i}}$ Nive, since the majority of toparchies in the Heracleopolite were entitled $\Pi_{\epsilon \rho i}$ followed by the name of the principal settlement, see BGU XIV, App. I; cf. M. R. Falivenc, Proc. XXth Int. Congress, 204-9. The objections are (r): no toparchy $\Pi_{\epsilon \rho i} T_{\epsilon \in \kappa \mu l}$ (see, e.s., BGU XIV 2437); (2) there is not really room for $\pi[\epsilon \rho] i$ and we ought to sec the desccnder of the rho. It secms thereforc that we have to restorc $\kappa[a] i N i v w$. The solution to the problem may lie in the fact that comarchs of three different villages act as his surety in lines $12-17$, and we may thereforc have the end of a clause stating that he is performing his public service on behalf of the three villages Twor

for supplying a single tradesman, see, e.g., XII 1426, P. Sakaon 23, PSI IX 1037; cf. P. Michaelid. 28.
3-5 For the form of the oath see K. A. Worp, ZPE 45 ( 1982 ) 200
6 For bakers at Panopolis serving troops there see P. Beatty Panop. I. $374-7$, with Skeat's comments in the general introduction, p. xiii. This relates to 297 and 298 , when there may have becn special reasons for rroops to be at 1115. For the suppl, in 281 see 10 Pirs.
Artos', Il lessico della panjicazione nei papiri greci, $\mathbf{1} 45,186-7$.
I2 ff. Nearly all comparable documents mention only a single surety, although two suretics occasionally occur. Three sureties for a single person is very unusual. It may be connected with the fact that the suretie are comarchs; cf. the occurrcnce of village $\pi \rho \in \epsilon$ Bútepoo as a body acting as suretics in PSI VII 734 and P. Oxy Hels. 20. For comarchs as sureties cf. P. Michaelid. 28, PSI III 162 and P. Vindob. Sijp. 5.
${ }^{13} E \lambda$. ov: 'EXÁfov is not probablc.
${ }^{4}$ Woü. aliso ate is a
expect the date here to belong to the same year; the figure for Maximian's ycar-number is far from clear but delta is not impossible. The titles of Diocletian and Maximian are very rarcly attested in the form found here. R. S. Bagnall and K. A. Worp, Regnal Formulas, 6, quote only SB V 8 r99 and PSI III 184. r9-20, to which we can now add $\mathrm{L}, 3571$ 17-18. It is noteworthy that both the last two texts are also from the Heracleopolite.

26-27 The restoration at the end of line 26 is noticeably shorter than those in the lines following, which are mostly reasonably secure and in any casc cannot be shorter. No other restoration scems possible, however; there is certainly not room to give Maximian's full names.
dothen resce to the drafting of tradcsmen to suits the space and it is reasonable to suppose that 29-30 After $\dot{v} \pi \eta \rho \epsilon \tau \eta$ cactau (no doubt intended for the future) it is not possible to rcad $\tau \hat{\varphi}$ (as in line 7 ).
 $\tau \hat{\varphi}$ is much too long for the space available aftcr this.
 and instances of the adjective, nearly all of which are used with reference to donkeys, are not helpful in the
 occurs in 45447 ，is equally enigmatic．It may be worth comparing P．Flor．II 157，a lettcr ordcring sustenance taken with the participle as well as the main verb．vinๆpeєєєi，fat is nearly always used personally in the papyri，
 presence of $\dot{u} \pi \eta \rho \epsilon \tau \eta \dot{\eta} \alpha c \theta a u$ in the previous line as well as the formula used in lines 6－8 supports the restoration

3I On apromou（ $($ ）／a sec CPR IX 26.21 n．and Battaglia，op，cit．I32－3．For the supplying of approc to soldiers at this period cf．XII 1572，XLIII 3124，P．Sakaon 20 and 21 ii（ $=$ P．Flor， 60 and P．Thead．31）． 32 There is not room to supply èkeíce（as in line io）；there may just be room for $\grave{\epsilon} \kappa \epsilon \hat{\imath}$ ，but it is not cssential ${ }_{36} C \dot{\prime} \beta \theta \epsilon \omega \mid c:$ a village in the $\Pi_{\epsilon \rho i}$ Пódev toparchy；sec $D i z$
 38 The reading is very uncertain．Just beforc the papyrus breaks off we have the top of a clear delta，but the marks which follow rule out the reading $\Delta \Delta_{\text {ok }} \lambda \eta \tau \tau a v o 0$ ．These marks are probably to bc interpreted as part of a spiral sign and an oblique dash，such as regularly follow year numbers at this period． The figure at the start of the line，after the symbol for ${ }^{\prime \prime}$ rove，is a fairly cortain epsilon（theta is less probable）． The problem is that there are ink marks between no purpose．

44 vap：$\omega \rho$ is less probable．I！ová $\rho$ is possible，with $A \hat{v} p y \lambda t$ toc in the preceding line．

J．DAVID THOMAS

4531．Report to the Strategus
${ }^{17}$ 2B． $56 / \mathrm{D}(\mathrm{c})$

$$
6.8 \times 18.5 \mathrm{~cm}
$$

28 June 196
Harpocration son of Harpocration，ex－secretary of property formerly belonging to Julius Theon，was required by a centurion to go to the Hermopolite nome to take action in connection with grain taxes owing．As he was prevented from doing this by illness， he arranged with another man of the same name，Harpocration son of Ophellion，to perform the duty in his stead．This arrangement needed to be ratified by the centurion （19－2I）and reported to the strategus．

For Julius Theon，see P．J．Sijpesteijn，The Family of the Tiberii Iulii Theones（Studia Amstelodamensia 5，1976）；L 3588；LXII 4336；J．Rowlandson，Landowers and Tenants in Roman Egypt（1996）107－8．We already knew that the family had estates in the Hermopolite as well as the Oxyrhynchite，see P．Theon．II．

The main hand is neat and mostly unligatured．The back is blank

$$
\begin{aligned}
& \text { тара̀ A A } \rho т о к р а т і ́ \omega \nu о с ~ \\
& \text { Артократі́шиос } \text { Ө́́сєь }
\end{aligned}
$$

5 то́лє $\omega \subset$ үєขонє́vov $\gamma \rho \propto \mu$ ． $\mu \alpha \tau \epsilon ́ \omega c[\tau] \hat{\omega} \nu \pi \rho o ́ \tau \epsilon \rho о \nu$ ${ }^{\prime} I o[v] \lambda$ íov $\Theta \epsilon ́ \epsilon \nu \nu c . ~ \grave{\epsilon} \xi \xi(\nu)$ кєлєи́сєळс Ai $\mu \epsilon \lambda \lambda i ́ o v$ ${ }^{2} A \mu \mu \omega \nu \alpha \nu \hat{\omega}$ є́катор－
$\pi \epsilon \rho[i]$ єие vócov каi ac［
$\lambda \iota \alpha \nu \tau \hat{\omega} \nu \kappa \in \lambda \epsilon v c \theta \epsilon ́ v \tau \omega(\nu)$

єic тò $\delta \eta \mu o ́ c \iota o v ~ e ̀ v ~ \pi \rho[o-] ~$
$\chi \rho \epsilon i a ́$ vi $\pi \epsilon ̀ \rho \gamma \epsilon \omega \rho \gamma \omega \hat{\nu}$
 av̉т $\omega \nu \pi \rho o ́ \tau \epsilon \rho \circ \nu$＇Iov－入íov ఆ＇́ $\omega \nu$ ос cuvecta－ кє̣vaı катà тà סó乡аעта
$20 \tau \hat{\varrho}$ аи̉т $\hat{\varphi}$ кратícт $\omega$ єєкатоута́ $\varnothing \chi$ А Apттои－ краті＇$\omega \nu \alpha$＇Офє $\lambda_{\lambda i} \omega$－ voc $\mu \eta \tau \rho о ̀ с ~ ' A \rho!с \tau \hat{\omega}$ тос àmò тท̂с аủテท̂c $\pi o ́-$
$25 \quad \lambda \epsilon \omega<$ порєчсо́ $\mu \in \nu$ о⿱ єic＇E $\rho \mu о \pi о \lambda \epsilon і т \eta \nu \quad \mu \epsilon-$ $\theta^{\prime} \hat{\eta} \subset ~ \delta i ́ \delta \omega \mu \iota ~ a v ̉ \tau \hat{\omega}$ cel－


30 растท́cavта тоv̀c $\delta \imath^{\text {？}}$
 $\gamma \epsilon \omega \rho \gamma$ оѝ к каì $\pi \alpha ́ \nu \tau \alpha$ тоьŋ́covта．（є้тоис）$\delta$ Av̉токра́торос Kaícарос

Cєovท́pov Eủcє ${ }^{\text {［o］}}$ ôc
Пєртіракос $С_{\epsilon} \beta$ асто $\hat{\text { и }}$

＇Eлєi申 $\delta$－．
${ }_{40 \text { (m. 2) }}$ A $А$ дтократі́ $\omega \nu$ ó $\pi \rho о \tau \epsilon \tau \alpha-$

## 

(m. 3) ААлтократі́ $\omega \nu$ 'Офє入í $\omega(\nu о с) ~ \epsilon v ̉ \delta о к \hat{\omega}$.



'To Lucretius Nilus, strategus, from Harpocration son of Harpocration, by adoption son of Asclas, from the city of the Oxyrhynchi, former secretary of the property formerly belonging to Julius Theon. By order of Aemilius Ammonianus, centurion, because of my illness and the ... quantities ordered by him to be paid to the state in advance on account of the tenant-farmers' arrears for the ist year and 2 nd year for the said property formerly belonging to Julius Theon, I acknowledge that in accordance with the decision of the said most distinguished centurion, I have deputed Harpocration son of Ophellion, his mother being Aristos, from the same city, to go to the Hermopolite with the list of arrears in grain for the said ist year and 2nd year, which I hereby give to him, and to produce the tenant-farmers who are named in it as debtors, and to do everything (necessary). Year 4 of Imperator Caesar Lucius Septimius Severus Pius Pertinax Augustus Arabicus Adiabenicus, Epeiph 4.'
(2nd hand) 'I, Harpocration the aforesaid, presented this.'
(3rd hand) 'I, Harpocration son of Ophelion, assent.'
I Lucretius Nilus was already known as strategus of the Oxyrhynchite nome. $\mathbf{4 5 3 1}$ provides a new carlicst datc for his tenurc. His nearest known predecessor is Aurelius Apolinarius, in office in 195/6. Sc ategi anal Scribes 95
5-6 A үранцarev́c of Julius Theon is attested in XXXVII 2865 (Heras, c. 122/3); also 2867 (namc lost, I27).
${ }_{8}-$ io An Aemilius Ammonius, presumably not the same person, is recorded as a centurion of the second cohort of the legio II Traiana Fortis in GIL III 6580 i $11=$ ILS 2304 (r94), and also in PSI VI 704.


U. SCHLAG
4532. Extract from $B \iota \beta \lambda_{\iota}{ }^{\prime} \hat{\eta}^{\prime} \kappa \eta{ }^{\prime} E \gamma \kappa \tau \dot{\eta} c \epsilon \omega \nu$
$182 \mathrm{~B} .7 \mathrm{r} / \mathrm{D}(\mathrm{h})$

$$
13 \times 3 \mathrm{rcm}
$$

27January 85
A copy of a contract for the loan of 500 drachmas (for two months?) from Panemgeus to his son Apollonius, extracted from the register of the property recordoffice of the nome. The loan was obviously registered with the property record-office because of the potential involvement of real property in the event of non-repayment,
 49-5 r, 53-5, 222 ff.

For the extract formula, i, cf. XIV 1649 I, XXXVIII 2848 ı. Most of the clauses of the loan contract itself are closely paralleled by XLVIl 3351 of AD 34 (the date is 20 February, not 27 February, see R. Ziegler, ZPE 91 (1992) 92). Like 3351, 4532 alleges itself to be interest free; for references to discussions of this and other aspects of money loans see 3351 introd.; LXI 4124 r 3 n.

None of the persons named appears in B. W. Jones and J. E. G. Whitehorne, Register of Oxyrhynchites (ASP 25, 1983).

The line beginnings have been lost, but otherwise the sheet is almost complete, with a deep lower margin of r 8 cm in which the horizontal strip construction is very clear, see P. Harr. II 214 introd

There is a manufacturer's (three layer) kollesis towards the ends of the lines. Immediately to the right of this, the structure is unexpectedly complicated, with signs of an additional overlapping layer of horizontal fibres and of glue staining. This remains unexplained.

The back is blank.









á $\pi \frac{0}{} \dot{o ́}^{-}$








 $\kappa \in$ äc $\neq(o c)$.

'Extract from the property record-office of the Oxyrhynchite, (from the section) deeds drawn up in the agoranomeion, (referring to the) middle toparchy. The fourth year of Imperator Caesar Domitianus Augustus Germanicus, Mecheir 2, in the village of Nemeron. Panemgeus son of Petsirion and grandson of Cuos, his mother being $x$, from the village of Sesphtha in the lower toparchy, residing in the aforesaid village of Nemeron, has loaned to his own son Apollonius, whose mother is -onis daughter of Apollonius, Persian of the Epigone, five hundred drachmas of silver of Augustan coinage, total 500 drachmas as capital to which absolutely nothing has been added, which the aforesaid Apollonius is to repay to his father Panemgeus on the 3oth of the month Phamenoth ... Imperator Caesar Domitianus Augustus Germanicus without any delay, But if he does not repay in accordance with what has been written, Apollonius is to pay his father Panemgeus the aforesaid principal plus one half together with the appropriate interest for the excess time, Panemgeus retaining the right of execution upon the borrower and upon all his property as if in consequence of a lawsuit. [?? ] Panemgeus, aged about 70, with a scar on the middle of his nose. Apollos [aged . . with a scar] on the left shin. The writer Le- aged about 25 , without distinguishing mark."
 4058 II-12.

6 N $\epsilon \dot{\mu} \dot{E} \rho \omega \nu$. Wc suppose the village was already named in 4. See P. Pruneti, I centri abitati dell' Ossirinchite 114-5. The village is known to have been in the middle toparchy, hence no doubt the reference to that toparchy in 2 here.
${ }^{8}$ II Restoration of the ths short for the space. Perhaps ép àyự̣̂ preceded, cf. III 506 II, XLIXX 3485 6-7 (rô aurrô $x$ (Ěrouc)? ? and what is i.e. that Kaicrupoc was omitted Mat inanscribed is already too long. I do not think that we have Aỉтoкра́т] opoc, see 2) year, a two-month loan.
 samc hand: Пave $\mu \gamma \epsilon \hat{c}$ at least in 17 is in the same hand as what precedcs, and the style has changed by the
line end, providing no suitable intervening point for a change of hand.
J. L. CALVO MARTÍNEZ

## 4533. Will

8 1B.rg2/H(2 -3$)$ b

$$
\begin{aligned}
& \text { (a) } 23 \times 13 \mathrm{~cm} \\
& \text { (b) } 6.5 \times 9 \mathrm{~cm}
\end{aligned} \quad \text { Late first/early second century }
$$

The papyrus contains the will of a man named Achillas. Lines $1-19$ are made up of four joining fragments. A smaller fragment (b) belongs below this, although its exact position is uncertain; see the note to lines 20-22. There are some offsets on the back A list of wills was given by O. Montevecchi in Aegyptus I5 (1935) 67-72, who included over 30 from Oxyrhynchus (several only published as descripta). This list was updated
by her in La papirologia, 208, and further examples are given in the introductions to P. Wisc. I 13 and P. Köln II 100 . These two texts are to be added to Montevecchi's list of Oxyrhynchite wills in Aegyptus, as are PSI XII 1263 , XX 2283, XXII 2348, XXVII 2474 and XXXVIII 2857. The best discussion from a legal point of view of the type of will found in $\mathbf{4 5 3 3}$ is still that by H. Kreller, Erbrechtliche Untersuchungen (1919).

Palaeographical considerations suggest the papyrus is to be dated to the second half of the first or the first half of the second century, the period from which nearly all examples of wills from Oxyrhynchus come. Most of the datable examples belong in the reign of Hadrian, but I $\mathbf{1 0 4}$ dates from the reign of Domitian and III $\mathbf{4 8 9}$ from that of Trajan. 4533 may be Hadrianic, but regnal titles of Vespasian also regularly end with $C_{\epsilon} \beta a c \tau o \hat{v}$, and there are occasional examples from the reigns of Domitian, Nerva and Trajan; see further line 8 n .

Like the majority of contemporary Oxyrhynchite wills (see III 489, introd.) it is written across the fibres. The formula used in several of these is more or less identical and it is clear that 4533 follows the usual pattern, thus enabling us to supplement most of the lost part at the left; the closest parallel is III $\mathbf{4 9 1}$ ( ${ }^{2} 26$ ). The wording of lines 2 and 8 in particular appears certain, so that the length of the line can be firmly established.

If the supplement in lines $\mathrm{II}_{\mathrm{I}}-12$ is correct (cf. line 6), and there is surely not room for anything more to have been included, Achillas merely states that the legatees are
 from the Roman period, which normally specify the particular property etc. which the testator is bequeathing. The wording here is reminiscent of some of the Petrie wills
 $\pi \alpha ́ \nu \tau a ;$ these are described as 'general legacies' by the editor in his table of the wills on pp. 26-9. More remarkable is the fact that Achillas is naming as his heirs (assuming
 (note that nowhere does the writer add a diaeresis in either name). Amois and Zoilus were probably related to Achillas in some way (cf. line 5 n .). It is also unusual for the testator to state that any children he may subsequently have are to be his heirs in addition to the named heirs. Presumably at the time he made his will Achillas was childless and, since no mention is made of a wife, unmarried

None of the persons attested in 4533 figures in B. W. Jones and J. E. G. Whitehorne, Register of Oxyrhynchites, $30 B C-A D ~ g 6$.
$\stackrel{\infty}{\circ}$

'Year $x$ of ... Augustus, $13^{\text {th }}$ of the month Neos Sebastos, in the city of Oxyrhynchi in the Thebaid. For good fortune.
'Achillas son of Heracleius the son of Theon whose mother is Tapontos the daughter of Naaroous of the city of the Oxyrhynchi has made this will in the street being sane and in his right mind. So long as I survive I am to have the power over my own property to make any further provisions or new dispositions I choose and to revoke this will, and any further provisions I make are to be valid. But if I die with this will unaltered I leave as my heirs any children I may have and Amois and Zoilus, both sons of Hatres the son of Alexas, their mother being Heraclous the daughter of Archias, of the same city ... in equal shares, each of them if he lives but if not his children, and if I have no children, solely the aforementioned Amois and Zoilus or whichever one of them survives, of all that I leave in any way whatsoever, on condition that those inheriting our property give within(?) one year from my death to ... the twenty silver drachmas which I bequeath him; no one at all is to have power to contravene these provisions and any person contravening them is to forfeit to the party abiding by them the damages and a fine of five hundred silver drachmas and an equal sum to the treasury, and the foregoing provisions shall none the less remain binding. The will is binding.'
(2nd hand) 'I, Achillas son of Heracleius the son of Theon, have made my will and after my death I leave as heirs any children I may have and Amois and Zoilus, both sons of Hatres, in equal shares, and if I have no children, solely Amois and Zoilus or whichever one of them survives, of all that I leave in any way whatsoever, on condition that those inheriting our property give within(?) one year of my death to ... twenty silver drachmas as aforesaid. I am 44 years old with a scar on the left shoulder and my seal is ...I, son of ... the son of Glaucias whose mother is Sambous, have written on behalf of my second cousin who does not know letters, and I am 50 years old without scar.'
(3rd hand) 'I, Thomoeris son of Thomoeris the son of Thomoeris whose mother is Demarous, of the same city, bear witness to the will of Achillas and I am sixty-four years old with a scar on the left eyebrow and my seal is the bust of Sarapis.'
(4th hand) 'I, Hecaton ... whose mother is Taammonion(?) of the same city, bear witness to the will of Achillas and I am ... years old ...'
( 5 th hand) 'I, ... son of Eudaemon the son of Diogenes whose mother is Isidora of the same city, bear witness to the will of Achillas and I am ... years old with a scar on the left ... and my seal is ...'
(6th hand) '...'
( 7 th hand) ' $\ldots$ and my seal is Hermes.'
(8th hand) ' $\ldots$ bear witness to the will of Achillas and I am ... years old ...'
I On the date see the introduction.
 pcriod, even though it was not part of the Thebaid administrative district at this time but belonged in the Heptanomia; see J. David Thomas, Pololemaic Epistrutegos, 125-31. The description is rare after the middle of the second century, the latest example being III 493 from the 180 s.

3 The supplement seems to bc slightly long, but is the shortest of any of those found in parallel documents.

 Provision for leaving property to children who may be born subsequently is occasionally mentioned in wills.



 however, where the property is to go to named heirs to
subsequcntly have, is, so far as I can sce, without parallcl.
ATpé $\omega$ c: as Youtie pointed out, Scriptiunculae I $382=$ TAPA 94 ( 1963 ) 330 n . 10 , there is no doubt that

 not quote this in the casc of $\AA \tau \rho \hat{\eta} \mathrm{c}$ (but he does quote it for $\Phi_{a \tau \rho \hat{c}}$ ). In the Roman period $A \tau \rho \hat{\eta} \mathrm{c}$ is far
 320.1 ( 138 ).

Bcfore $\bar{\epsilon} \xi ้$ ̌cou the relationship of Amois and Zoilus to Achillas was presumably stated

e. Husselman, TAPA 88 ( I957) I26-7. Examples I have notcd are I $\mathbf{1 0 4} 25$, III 583 , 649, BGU IV IL5 15 , 6 P. Fay. 97.13 , Stud.Pal. IV 1 I6, P. Kron. 50.7 ff., P. Ups. Frid I. $16-17$, SB VIII $9642(\mathrm{I})$. $12-14$ and (3).II -12. The closest parallel to the wording used herc is $1 \mathbf{1 0 4} 22-5$ (cf. BL V), where the principal legatce is the woman's son, but the testator adds $\kappa \alpha i \begin{gathered}\text { dócet } \\ \text { of aub [ } \tau 0] \text { ] viloc to the woman's daughter by her present husband }\end{gathered}$
 ра́кovтa. Therc the meaning is clear; here the problem is that the sense we expect is 'within one year of my death', but $\mu \in \tau$ nod normally means 'after' (cf. LSYy s.v. C.II.2).
${ }^{2}\langle\sim \varphi$ proves that the name of this beneficiary must already have occurred carlier in this same line.
 and PSI XII ${ }_{12} 63$ (undated). No other will has a penalty as low as 500 dr . The earlicst attestation of tooo dr. is III 489 of ${ }_{117}$, which perhaps suggests that 4533 is earlicr than ${ }_{11} 7$ (but cf. lincs $16-17 \mathrm{n}$.).
io The restoration suggested fits neatly into the available space, since the sprawling second hand is somewhat larger than the first hand.

14 ff . For a list of seals attested in wills sce P. Wisc. I, p. 53 .
 sem to be no alternative to the rare word evétoc, attestcd in the papyri elsewhere only in II 2704 and III 502 14; also in the inscription I. Alcx. $29.16=\mathrm{SB}$ V 8780

15 The name $\Theta_{0} \mu \circ \eta \rho \frac{1}{c c}$ is not attested elscwhere. 105 I4 of the reign of Hadrian; sce also VI 968 (carly 2nd cent.). The name is not common and he may well be the same man in all three documents. The hands in 105 and 968 are certainly the same and could be the same as the hand in 4533. If it is the same man, his seal is Sarapis
${ }^{17}$ ] ] $\mu \mu \omega v i v_{0}$ : the pattern in the other entries suggests at this point the mother's name, in which casc we should no doubt supply Taa] $\mu \mu$ uviouv.
${ }^{18}$ The point at which the fifth hand began is uncertain. ] Aov, [ may belong to the fourth hand, but it does not secm possible to read cфpayic 2 A$] \theta \eta \eta \gamma \mathrm{a}[\mathrm{c}$, as in, c.g., 1 II 491 r8 and 25.
$20-22$ Although this fragment cannot be attached to the main part of the will, it is very unlikely that he suggestion that linc 20 is in a The text no doubt contained signatures by the usual six witncsses (hence the suggestion that (horizontal) kollesis at the top edge of the small fragment, there is vcry limited scope for
As there is a fibre comparison betwecn the two fragments. Neverthclcss, there are strong reasons for supposing that th small piece belonged at the extreme right. In the first place there is a space at the end of line 21 after $E_{p \mu 0}{ }^{\circ}$, which suggests the edge of the papyrus is prescrved in this line. Sccondly, parallels (e.g. I 105, III 489, 491,
 name of the testator. If this was recorded in the left-hand part of the papyrus, as occurs for example in the we would then have a satisfactory explanation for why no trace of this is to be secn and why the five centimctres of papyrus remaining below line 22 are blank.
21 ec. : : $\mathrm{ccru}(\nu)$ must have been intended but does not seem to have been written; the letter after $\epsilon$ l looks like another sigma.

On the back, at the top left, there appear to be traces of four or five short lines written along the fibres, but in reality thesc are no more than offsets.
J. DAVID THOMAS

## 4534. Lease of a Loom

I3 IB.I28/EI(a)
$15.5 \times 23.5 \mathrm{~cm}$
2 October 335
Aurelius Gunthus leases a weaver's loom for a year to Flavius Ision, a soldier, and Dioscorammon, a weaver of Tarsian garments. As rental the lessees are to weave a quantity of cloth each month for the lessor. The contract begins in objective form but changes at line 9 to a subjective form from the viewpoint of the lessees, but then within this subjective form it fluctuates seemingly haphazardly between expected plural (éккico-
 I2; $\pi \alpha \rho a[\delta \hat{\omega}],{ }^{12-13}$ ). This may be less irrational than it seems: the choice of plural verbs might suggest that Dioscorammon, тарсıкápıoc, was providing the technical skill while Flavius Ision, $<\tau \rho \alpha \tau \iota \omega \tau \eta c$, provided the finance for their enterprise.

The lessor's subscription appears at the foot; this was presumably a copy made for the lessees.

Written along the fibres; the surface of the back is in poor condition, but there may have been a docket along the fibres, i.e. at $90^{\circ}$ to the front.

A few sales of looms have been published, e.g. II 264, XIV 1705 and P. Oxy. Hels, 34, but this is the first papyrus to record the lease of a loom, unless this is the case in P. Dubl. 31, originally published by B. C. McGing, ZPE 82 (1990) II5-21 (Panopolis, AD 355). This is a lease of an ${ }^{\text {ép }}$. McGing assumes, no doubt rightly, that $\pi \dot{\gamma} \gamma \mu a c \iota=\pi \dot{\eta} \gamma \mu a c \iota$ (a similar spelling is found in Stud. Pal. XX 2 II. 12 ), and suspects that here the word means simply 'looms'. J. Kramer has surveyed the meanings of $\pi r^{\prime} \gamma \mu a \tau \alpha$ in the papyri, Archiv 43 (1997) 74-7, but does not refer to P. Dubl. 31. McGing cites bibliography on linen-weaving on p. II7. On the weaving trade in general see E. Wipszycka, L'industrie textile dans l'Égypte romaine (1965).



$\lambda \alpha \mu(\pi \rho \circ \tau \alpha \dot{\tau} \omega \nu)$.


$5 \quad \tau \iota \omega$ [ $\tau \eta$..] $\rho$ [ 3-4].[с.3]. ос каì $\Delta \iota о с к о р а ́ \mu \mu \omega \nu\langle о с\rangle ~$









$\kappa \alpha i ̀$ è $\pi \epsilon \omega \omega \tau \eta \theta \epsilon ́ v \tau \epsilon \subset$ ஹ́ $\mu о \lambda о \gamma \eta ́<\alpha \mu \epsilon \nu$. $\dot{v} \pi \alpha \tau \epsilon i a c \tau \hat{\eta} \subset \pi \rho о к(\epsilon \iota \mu \epsilon ́ \nu \eta \subset), \quad \Phi а \hat{\omega} \phi \iota \epsilon^{\prime \prime}$.



'In the consulship of Julius Constantius, patrician, brother of our master Constantinus Augustus, and Rufius Albinus, viri clarissimi
'Aurelius Gunthus son of Eutychius, from the illustrious and most illustrious city of the Oxyrhynchites, has leased to Flavius Ision, soldier ... Dioscorammon from the same city, weaver of Tarsian garments, for one year from the present month Phaophi of the current 30 th/ 20 th $/ 12$ th $/ 3$ rd (year), one loom for weaving Tarsian garments, complete, fitted with all equipment, on condition that instead of rent I am to weave for you without payment each month two pounds of Mendesian flax, you Gunthus providing the flax. At the end of the period I will return the loom in good condition, as I received it, or we shall pay the proper value of whatever I do not return, the right of execution remaining with you as is proper. The lease is binding, and in answer to the formal question we gave our agreement.
'In the aforesaid consulship, Phaophi 5.'
(2nd hand) 'I, Aurelius Gunthus, have leased out the loom as aforesaid.'
3 This Aurclius Gunthus has not been recorded in The Oxymynnchus Papyri before, nor has the soldier Flavius Ition (4) nor the weaver Dioscorammon (5) although that name has been attested oncc from Oxyrhynchus, in LVIII 392745 from the third century. For personal names in -ammon see F. Dunand, Chr.
$d^{\prime} E g$. ${ }_{5}^{38(1963)}$ Restoration here is difficult. Seemingly we need ${ }^{4} c \tau \rho \alpha-{ }^{5} \tau \tau \omega\left[\tau \eta \delta i^{\prime} A v i\right] \rho[\eta \lambda \lambda o v$ (possibly abbreviated) name ] . oc $\langle\tau o \hat{0}\rangle$ каi $\Delta ь о с к о р \alpha \mu \mu \omega \nu\langle о c\rangle$. This is a long way from the spaces and traces assured by the papyrus. $\Delta_{\iota о с к о р \alpha ́ \mu \mu \omega \nu}^{\langle o c\rangle}$, at least, is reasonably justified by genitive тарсккарiou in 6. He ought to have the statu designation Aurclius, and a patronymic-possibly the initial space in 6 was intended for this.

Alternatively, should we sec this as a late example of the io $\kappa \alpha i$ formula?
6 For tapcurinoo see LI 3626 . T. Kruse PPE 88 ( 1091 ) 88
6 For тapcuápoo see LI 36264 n.;'T. Kruse, ZPE 88 (1991) r38.
of equipment, measuring to cubits by 6 , which would not have been 298 ). This was a substantial piece components see McGing, ZPE 82 (1990) 120-1 with references, and P. Oxy. Hels. 34.
9 io The same usc of the word èvoikiov with refercnce to the lease of weaving equipment is found in P. Dubl. 31, and it is paid off in the same way by the lessee's provision of weaving scrvices. See McGing, ZPF 82 ( 1990 ) $120,11 \mathrm{n}$. for the equation of evooikiov and фópoc at this period.

Io 'Mcndcsian flax' appears to be unrecorded clsewhere as a variety.
I 6 'The placing of $\Phi_{a \omega \bar{\omega} \phi t} \epsilon^{\prime \prime}$, while it is in the main hand, suggests that the text may have been drawn cxtended); then month and day were added at the appropriate moment. Cf. 4528
R. A. COLES
4535. Aaknowledgement of A Debt

3 IB 9I/A( x )
$12 \times 34 \mathrm{~cm}$
14 January (?) 600
The papyrus contains an acknowledgement by an évanóy $\rho a \phi o c ~ y \in \omega \rho \gamma$ óc to his landlord of a debt of 6 solidi less 24 carats which he has incurred and which he undertakes to pay back whenever his landlord chooses. The papyrus is complete at top, bottom and both sides, but has suffered considerable damage in the middle where a large part of lines $22--26$ has been lost.

For the most part the formulas used are those which were standard at this period in the Oxyrhynchite nome and which are well attested in several documents from the Apion estates. It is noteworthy that the landlord in 4535, Flavius Apollos, is a comes sacri consistorii. He is also $\delta \iota o \kappa \eta \tau \eta \dot{c}$ of Strategius, on whom see the note to lines $12-13$.
†'ย ỏvó $\mu a \tau \iota ~ \tau o \hat{v}$ kvpíov каi $\delta \in c \pi(o ́ \tau o v)$


$\epsilon \dot{v} c \in \beta(\epsilon c \tau \alpha \dot{\alpha} \tau \circ v) \dot{\eta} \mu \hat{\omega} \nu \delta \epsilon \subset \pi(o ́ \tau o v) \mu \epsilon \gamma i c \tau o v \epsilon \dot{v} \in \rho \gamma \epsilon ́ \tau[0]$ v
5 Фhaovíov Maupıкí[ov] Nє́ov Tıßєpíov тô̂


$\delta \in c \pi(o ́ \tau o v)$ ध́ $\tau о \nu \subset \overline{\iota \zeta} T[\hat{\nu} \beta] \iota \overline{\imath \eta}$ ì $\delta(\iota \kappa \tau i ́ o \nu o c)$
трíт $\eta$ с.

ко́ $\mu \epsilon \tau \iota ~ \tau о \hat{v}$ өєíov коvсıcтшрíov

$C_{\tau \rho \alpha \tau \eta \gamma i ́ o v ~ v i \pi \alpha ́ \tau o v ~ v i ̂ ̣ ~ \tau o ̂ ~ \tau \hat{\eta} c}$
$\lambda \alpha \mu \pi \rho \hat{\alpha} \subset \mu \nu \eta \eta_{\varphi} \eta \subset \Phi_{0} \beta \dot{\alpha} \mu \mu \omega \nu$ ос


viòc ä́та Naк!ov ب̈ךтрòc "Icıסoc



$\lambda a \mu \pi \rho o ́(\tau \eta \tau \sigma c) \stackrel{o}{\mu} \mu[0] \lambda o \gamma[\hat{\omega}$ ỏ $\phi] \epsilon(\lambda \epsilon \iota \nu a v ̉ \tau \hat{\eta}$
$\kappa \alpha i ̀ ~ \chi \rho \epsilon[\omega] c[\tau \epsilon \hat{\imath} \nu \kappa \alpha] \theta a \rho \hat{\omega}<\kappa \alpha i$

$\chi \rho[$ vсıк $\omega \nu(?) \quad$ с. 5 ]. . $\tau \epsilon$

$\pi \rho o[\pi \alpha \rho \epsilon] \lambda \theta o v c \hat{\omega} \nu \stackrel{\epsilon}{\epsilon} \pi \iota \nu \epsilon \mu \epsilon \in(c \epsilon \omega \nu)$

$\kappa \epsilon \rho a ́ \tau \iota a \epsilon^{\ell}[\kappa]$ ocı $\tau[\epsilon ́ c]$ capa




ن́тарХо́vт $\omega[\nu$ vi] $\quad \pi о к є є \mu \epsilon ́ v \omega \nu$








* di em[u Pa]pnuti'u'..

Back
 $\chi \rho(v<\circ \hat{v}) v o(\mu \iota c \mu a ́ \tau \iota \alpha) \varsigma \pi(\alpha \rho a ̀) \kappa[\epsilon \rho](\alpha \dot{\tau} \iota \alpha)[\kappa \delta]!?[\delta(\iota \omega \tau \iota \kappa \hat{\omega}) \zeta(v \gamma \hat{\varphi})]$.
'In the name of the Lord and Master Jesus Christ our God and Saviour. 18th year of the reign of our most divine and pious master and greatest benefactor Flavius Mauricius the New Tiberius the eternal Augustus and Imperator, in the year of the I 7 th consulship of our said most pious master, Tybi (?) 18 , in the third indiction,
'To Flavius Apollos, spectabilis comes sacri consistorii and administrator of the allhonoured consul Strategius, son of Phoebammon of illustrious memory, a landholder here in the illustrious city of the Oxyrhynchites.
'I, Aurelius Elias son of Apa Nacius, whose mother is Isis, native of the hamlet of Siceon B... in the Oxyrhynchite nome, colonus adscripticius of your magnificence, acknowledge that I am in debt and owe to your magnificence clearly and without fail, in respect of (?) my gold taxes (?) due for the fifteenth(?) and for the first past indictions, six gold solidi less twenty-four carats on the private standard $=6$ gold solidi less 24 carats on the private standard, and this I agree to produce to your magnificence when your magnificence chooses without delay, at the risk of my property which is mortgaged to this end. The contract written in a single copy is binding and in answer to the formal question I gave my assent.'
(2nd hand) 'I, Aurelius Elias son of Apa Nacius the aforesaid, have made this contract in respect of the six solidi less twenty-four carats as aforesaid. I, Papnuthius, wrote on his behalf as he is illiterate.
'Through me, Papnutius(?), it has been registered.'
Back. (ist hand?) 'Contract of Elias son of Apa Nacius of the hamlet of Siceon B... for 6 gold solidi less 24 carats on the private standard.'

1-9 On the invocatio formulas see R. S. Bagnall and $\mathbf{K}$. A. Worp, Chr, d ${ }^{2}$ gg. 56 ( 198 I ) $112-33$, esp. $112-18$. For the reckoning of dates at this period, see Bagnall and Worp, Regnal Formulas, 589 , and BASP 18 (1981) $33-8=$ CNBD 85 . Our text shows no divergences from the expected pattern.

 KóuєToc kai ঠook
 каì ס九ouk $\eta \tau[0] \hat{0}$ aủzoù
 11., and P. Heid. IV 33 I . $3-4 \mathrm{n}$. with a comprchensive listing of all papyri which relate to him. There is no other Oxyrhynchite document in which he is described in exactly this form, without the epithet $\dot{v i \pi \epsilon \rho \phi \cup \in \in \tau \text { cracoc. On his first certain appearance }}$
 inv. 10526), and the same titles appear in XVI 1991 of 601 , the only other Oxyrhynchite document to
 for which see Palme, Chiron 27, 120-1.
$15 \gamma$ fouvopva: in 1991, 3936 and P.Berol.inv. 10526 Strategius is described as a landholder in the
Oxyrhynchite, which might suggest that whe

 larly difficult. Here initial beta is plain, but is very hard to read in line 42; there the word clearly ends with $\alpha_{\rho}$ and an abbreviation mark, but it is difficult to read rho after $\kappa \alpha$ in ${ }^{19}$. The combination of the two readings, if they are correct, suggests the word may come from bracarius, and $\beta \lambda a \kappa \alpha p-[$ sic $]$ may be just possible
in 19 . This could be understood as Elias' trade, but it would then be out of place between the reference to place-namc. The first word may be an alternative spelling for Cukc $\hat{\omega} v o c$ ('a fig grove'), or for Cukvêvoc. For the occurrence of place-namcs ending in -( $\left(\right.$ ) ${ }^{\prime} v$ in post-classical Greek cf. L.R. Palmer, A Grammar of the postPtolemaic Papyri, 120-1, who includes in his list cıкvóv =-є $\omega \nu$ v.
${ }^{20}$ évaróvpadoc $\gamma \in[\omega \rho \gamma]$ ọ́c: see I. F. Fikhman, AnaPap 3 (199I) $7-17$, with a full citation of earlicr bibliography.
${ }_{21}-6$ There are no exact parallels for this badly damaged section of the papyrus. The gencral sense must surely be that the debt is owed for payments due for two (or more?) preceding indictions. As one of
these is the first and it seems impossible to fit in $\delta \in v \tau$ épac, the obvious solution is to supply a reference to the fifteenth. At the end of line 24 the traces are not really consistent with $\pi$ ]evie, and we cannot read кaideкdizךc in the next line: the traces at the start, although meagre, do not allow kav and the restoration [ $\delta \epsilon \kappa \alpha \dot{\alpha} \tau] \eta c$ is much too short for the lacuna. Slightly more promising is $\tau \epsilon|\pi \in \varphi| \tau \epsilon \kappa \alpha a \delta \epsilon \kappa \alpha \tau \mid \eta c$. But we should then expect $\tau \hat{\omega} \nu$ or $\tau \hat{\eta} c$ before $\tau \epsilon$, neither of which seems possible.
 from the Oxyrhynchite nome, but there are several attestations of it in papyri from other nomes at this period: see P. Dubl. 25.4 n.
$1909{ }^{23-4} 6-7$, but I I know of no example with the words in this order. For reference to a specific indiction 1907 ,


 $\chi \rho[\epsilon \epsilon \hat{\omega} \nu$. For $\chi \rho[\varepsilon \epsilon \hat{\omega} \nu$ C. P. Warren $10.11-12(591 / 2)$, also from the Oxyrhynchitc, where a loan is acknow-

 $26 \pi \rho \rho[\pi a \rho \epsilon]$ 入
or $\alpha_{\rho \rho t i \omega c}$ before $[\pi a \rho \epsilon] \lambda \theta$ : the rubbed traces at the slart of the line are not at all clear. We can rule out apri 27-9 For a recent discussion of solidi less so many carats see Klaus Maresch, Nomisma und Nomismata (Pap. Colon. xxi, 1994), 8-13; all known examples of the expression from the period $544^{-6}$ - 19 are listed by him on pp. 163-71. He also discusscs on pp. 32-34 the diflerent standards which were in use in the Oxyrhynchite in the second half of the sixth century.

29 K $\bar{\delta}:$ the second figure is strangely made, rather like a modern $Q$. Although the reading $\tau$ feccapa is not the figure we should expect for 6 solidi on the so-called private standard in the Oxyrhynchite nome at this date; see Maresch, op. cit. Io.
 VII, pp. 161-2.
$39 \kappa \alpha \theta[\dot{\omega}] ؟ \pi \rho \sigma \kappa(\epsilon \epsilon \tau \alpha u)$ : $\dot{\omega}<\pi \rho \sigma \kappa \epsilon \epsilon \tau \alpha \iota$ would be more usual, but this does not account for all the ink or
the spacing the spacing.

A man named Papnuthius writes for illiterates in a number of Oxyrhynchitc texts of this period: P. Flor. I 65 ( $570 /$ I? ), PSI VII 786 ( 581 ? sce BASP $18 \mid$ [ 98 r ] 34 ), XVI 1976 ( 582 ), I 137 ( 5844 ), XVI 1988 ( 587 ), SB $594 / 5$ or $609 / 10$ ?): P. L. Bat. XIII 20 I 61 ( 609 ) and P. Lond. V 1764 ( 1 thth indiction, therefore $579 / 80$, in the Ashmolean Library, PSI 786 is reproduced as Plate LII in Papiri grecie e latini a Fivenze ( $=$ Pap. Flor. XII, Suppl.; 1983) and P. L. Bat. XIII 20 was accompanied by a plate in the edition. In all cases which can be checked, apart from P. L. Bat. XIII 20, it is probable that the illiteracy statement is in the same hand as in our text.

41 Johannes M. Diethart and Klaas A. Worp, Notarsunterschriften im byzantinischen Äqppten, pp. 83-4,
16.2, quote 13 examples of subscriptions from Oxyrhynchus written by a Papnuthius they include all the texts quoted in the previous note except 3942 (wherc the di' emu clause was not written by Papnutius, see the note to line 36$)$, and add I $\mathbf{1 3 6}(583)$, $\mathbf{1 3 8}$ ( $6 \mathrm{Io} / \mathrm{II}$ ), XVI $\mathbf{1 8 9 8}(587)$, which do not have illiteracy statements by Papnutius, and XVI 1993 (587), which is only published in part. The writer of most of these is probably the same as the man in our text (although this is far from clear in some cases, especially 136, 138 and P. L. Bat. XIII 20). The closest parallel for the way di emu Papnutiu is written in $\mathbf{4 5 3 5}$ is $16.2 .5=1 \mathbf{1 3 7} 27$. In 137

Dicthart and Worp agree with Grenfell and Hunt in reading sunf(bolaegrrafiu) after this. In our text, however the reading seems to be much more like an abbreviated form of etelioth, possibly eftetio) th, for which PPE 34 . Lond. 1764.12 . On the (intentional?) near illegibility of these notarial statements see. G. Keenan, 979) 137, note to linc 30.

42 д̇ $\pi \grave{\text { è }}$ èrokiov may wcll have been abbreviated.
J. DAVID THOMAS
4536. Promise of Good Behaviour
a/3 A

## $12 \times 35 \mathrm{~cm}$

27 October 612 (?
The papyrus is complete but much rubbed in places with some loss of ink. This does not seriously affect the reading, especially as the text is an almost exact parallel of I 139 and XVI 1981. All three papyri are undertakings sent to Flavius Apion III, by inhabitants of villages under his control, to be of good behaviour. 1981 was written on Phaophi 28, 139 on Phaophi 29, and 4536 on Phaophi 30, all in the ist indiction; on the Julian date see the note to lines I-6. In 139 the undertaking comes from a $\pi \rho \omega \tau o \phi v i d a \xi$ and in the present text from two $\pi \rho \omega \tau о ф v$ йдккєс. The two senders of $\mathbf{1 9 8 1}$ do not indicate an official position, but the subscriptio is made by $\tau o ̀ ~ \kappa o \imath v o ̀ v ~ \tau \hat{\omega} \nu$ ỏvo $\mu \alpha \dot{\tau} \tau \nu$ as in 4536.

Minor differences between the present text and 139 and/or 1981 are indicated in the notes. In all three texts the persons giving the undertaking are illiterate and a man named John writes for them. Similarly in all three texts the notary who wrote the statement in 'Latin' at the foot is called John. The natural assumption is to suppose that this is the same person, but it is very hard to accept that the man who wrote the illiteracy sentence, in a rounded Greek script, can have also written the neat, right sloping notarial statement; see further the notes ad locc.


$\theta \epsilon \iota \circ \tau \alpha ́ \tau o v ~ к a i ~ \epsilon u ̉ c \in \beta(\epsilon c \tau \alpha ́ \tau o v) \dot{\eta} \mu \hat{\omega} y \delta \in \subset \pi(\dot{o} \tau o v) \mu \epsilon \gamma i ́ c \tau o v$
$\epsilon \dot{v} \epsilon \rho \gamma(\epsilon ́ \tau o v) \Phi \lambda(\alpha o v i ́ o v) ~ ' H \rho а \kappa \lambda \epsilon i ́ o v ~ \tau o v ~ a i ̂ \omega v i o v ~ A v ̉ \gamma o v ́ c \tau o v ~$

iv $\delta(\iota \kappa \tau i ́ o \nu o c) a$.

à $\pi o ̀ ~ ن ̇ \pi \alpha ́ \tau \omega \nu ~ к а i ~ \pi a \tau \rho \iota \kappa(i \omega) ~ \gamma \epsilon о ข \chi о \hat{\nu} \nu \tau \iota$
$\kappa \alpha i{ }^{\epsilon} \epsilon \tau \tau \alpha \hat{v} \theta \alpha \tau \hat{\eta} \lambda \alpha \mu \pi \rho(\hat{a})$ ' $O \xi v \rho v \gamma \chi(\iota \tau \hat{\omega}) \pi o ́ \lambda \epsilon$





ขоноv̂ $\pi \alpha \gamma \alpha \rho \chi о v \mu \epsilon ́ \nu \eta с ~ \pi ฺ \alpha \rho a ̀ ~ \tau \hat{\eta} \subset$



$20 \quad \kappa \lambda \epsilon ́ \psi \alpha \nu \tau \epsilon \subset \mu \eta \chi \alpha \nu[1] \kappa \alpha ̀$



$\tau \hat{v} \dot{v} \mu \epsilon \tau \epsilon ́ \rho a \dot{v} \pi \epsilon \epsilon \phi(v \epsilon i ́ a) \delta_{i} \dot{\alpha} \tau \hat{\omega} \nu a u ̉ \tau \hat{\eta}$
$25 \pi \rho о с \eta \kappa о ́ \nu \tau \omega \nu$ viлє̀ $\rho$ є́ка́стоv


ảmaıтоv́ $\epsilon \nu \alpha$ к!

кирía $\dot{\eta} \dot{\delta} \mu о \lambda о \gamma i[\alpha] \stackrel{\dot{\alpha}}{\underline{\pi}} \lambda(\hat{\eta})$

(m, 2) †тò коьขòv $\tau \hat{\omega} \nu$ ob $\nu о \mu \alpha ́ \tau(\omega \nu)$



oै $\nu \tau \omega \nu$. $\ddagger$
(m. 3?)

* di em(u) Ioannu eteliothhS.

Back (m. I)







'In the name of the Lord and Master Jesus Christ our God and Saviour. In the second year of the reign of our most godly and pious master the greatest benefactor

Flavius Heraclius the eternal Augustus and Imperator, Phaophi 30, of the ist indiction.
'To Flavius Apion the renowned and most extraordinary, of consular rank and patrician, landowner here also in the glorious city of the Oxyrhynchites, through Menas, slave, putting the formal question and supplying for his own master, the same renowned man, the conduct of and responsibility for (the transaction), Aurelii Apollos son of Anoup and Erkot son of Apollos of the village of Pleein in the Oxyrhynchite nome, which village belongs to your excellency's pagarchy. We acknowledge to your excellency that if ever at any season or time we are found to have stolen the water-wheel implements or cattle or to have committed any theft whatsoever or to have harboured robbers, we are to deliver to your excellency through your excellency's representatives for each infraction twenty-four gold solidi, actual payment of which is to be demanded, at our own risk and that of our property. The acknowledgement written in a single copy is enforceable and in answer to the formal question we gave our assent.'
(2nd Hand) 'We, the collective body of names, are satisfied with this acknowledgement as aforesaid. I, John, have written on their behalf as they are illiterate.'
(3rd Hand?) 'Executed through me, John.'
(Back; ist Hand) 'Acknowledgement of Apollos son of Anoup and of Erkot son of Apollos, head-watchmen, originating from the village of Pleein in the Oxyrhynchite nome.'
I. 6 The invocatio and the regnal formula arc of the pattern normal in the Oxyrhynchite nome at this date. For the invocatio see R. S. Bagnall and K. A. Worp, Chr. $d^{\prime}$ Fg. 56 (r 981 I) $112-33$, esp. 12I, and for the regnal formula Bagnall and Worp, Regnal Formulas in Byzantine Egypt, 68-73, esp. 68-9, updated by Worp in $77 P^{23}$ (1993) 217-32, esp. 218. In 139 the invocatio and most of the regnal formula is lost.
of 27 October 612 . 1981 was read by Grenfell and Hunt as dated by regnal year 2 and indiction I, which would make it a parallel to our text (in 139 the year-number is lost). Subsequently it was suggested that the figure for the regnal year was gamma and not beta (see LVIIII, p. xvii). The photograph, however, shows no more than an upright remaining of the damaged figurc, which could fit eithcr beta or gamma. Since the prcsent text certainly belongs to a second year, we must give the preference to beta in 1981. In BASP I (r980) 24 ( $=$ CNBD 62), Bagnall and Worp discuss 4 texts of the reign of Heraclius, 1981, BGU XII 2208 -2209 and SB VI 946 r , with a similar discrepancy to that in our papyrus. They argue that in cach case it is the indiction-date which is right, and that the texts are 'examples of failure to advance the regnal count' in present text would appear to be another example of this and so to date from 27 October 6xa. See also LVIII 3957, with Rea's comments in the introduction.
7-9 On the Apion family see J. Gascou, Travaux et Mémoires 9 (1985) 61-75, and in particular for Apion III, 68-71. Subsequent bibliography is recorded in B. Palmc, Chiron 27 (1997) 97 n. 6. Cf. $4535{ }^{12}{ }^{\text {12 }}$ 13 n., and for the family stemma sec Palme, $Z R G_{115}(1998) 322$.
8 The papyrus has an oblique mark like a grave accent over the pi of amó, and a similar mark over the mega of $\mathrm{T} \hat{\mathrm{Q}}$ in line 12 (cf. the critical
Io On Menas scc LVIII 3935 n

13-14 The Apollos son of Anoup who gives a parallel undertaking to be of good bchaviour in $\mathbf{1 9 8 1}$ is from a different village.
${ }^{1} 4{ }^{\prime} E \rho \kappa \kappa(\omega \tau)$ the name is not attcsted elsewhere, but the reading, when taken in conjunction with line 38 , is reasonably secure. Accent and breathing are arbitrary.

 text ran דapà toò v́û̂̀ évoógov oúkov, see BL VII 143, as in XXIV 2420 13.

I9 фapô $\mu \mathrm{v}$ : 1981 omits the word (a scribal slip), while 13919 reads фavo 1 ev. In 139 the editors corrected
 also have read $\phi$, $\quad$ opev. For $\epsilon$ with the subjunctive in late papyri see Basil G. Mandilaras, The Vert in the Greek non-literayy Papyri, §60I.

 seading un lin. present text; more probable is по

23 hıctác: the same spelling is found in 13923 and 198122 .

 always occurring immediately after the word $\delta \pi \in \rho \phi v \in\left(a\right.$. Note that in 139 and 1981 it occurs bcfore $\dot{\omega} c \epsilon^{\prime}$ тотє and not at this point.

26 रिucoî: $139{ }_{25}$ reads रpuctov; $\mathbf{1 9 8 1} 25$ has $\chi \rho v[$ [coo ].
$26-7$ In 139 and 1981 the penalty is also 24 solidi.
 29 and XLIV 320424 . On its significance of. P. Rain. Cent. $84 \cdot 3-4 \mathrm{n}$.
31 $\omega \mu[0] \lambda>\gamma \gamma \eta<\alpha\langle\mu \epsilon \nu\rangle$ : there is no mark of abbrcviation and it secms clear that the scribe wrote the 32-6 4536 brings to at least ten the number of texts from Oxyrhynchus in this period in which a man namcd John writes for illiterates: PSI I 77 (551), VII 1038 (568), P. Laur. III 75 (574) [for the date and provenance see BASP 18 (1981) $44^{-6]}$ ], I $192=B A S P_{31}($ r994 $) 56-8(599 / 600$ or 6 r4 $/$ I5 $)$, PSI I $52(602$ or 617), I 139 ( 6 I2), XVI 1981 ( 612 ), PSI I 62 ( 613 [see BL I]), and 72 (undated); probably also PSI VI 709 (566). In most cases it is possible to check photographs: thc editions of P. Laur. 75 and 1192 are accompanied
by plates, and plates of PSI 62 and 709 are included as nos. LVI and L in Papiri greci e latini a Fizenze ( $=$ Pap. by plates, and plates of PSI 62 and 709 are included as nos. LVI and L in Papin grecie e latini a Frtenze ( $=$ Pap.
Flor. XII, Suppl.; I983); for $\mathbf{1 3 9} \mathbf{1 0 3 8}$ and 1981 I have consulted photographs in the Ashmolean. In addition to 1391981 and $\mathbf{4 5 3 6}$ I believe that the same John occurs in P. Laur. 75 (where the first hand is also identical with that in 4536 ), 192 and perhaps PSI 62 . On the hands of the notarial statements see bclow.

 the phrase $\tau \grave{~} \kappa o \not v o ̀ \nu \tau \omega \nu$ b̀oucícov is again used. It would appear that the persons named are considered to bc representative of the whole community or that the community as a whole accepts liability for the agreement (cf. XVI $1979{ }_{23}$, where the same phrase occurs but thcre is only one person giving the undertaking). It is noteworthy that in 1981 the back reads $\dot{\rho} \mu o \lambda(o \gamma(\alpha) \tau \hat{\omega} v \dot{\mu} \pi o ̀ ~ \kappa \omega \dot{\mu} \mu(\eta c)$ " $\Omega \phi \epsilon \omega c$. Apart from the texts mentioned, the phrase is also found in XVI 1896 24, PSI I $52.34-5$ (see BL VII), P. Lond. V $1764.8-9$ and P. L. Bat. XIII $20.22-3$ (all from the Oxyrhynchite)
$34^{-6}$ The illiteracy statement takes the same form in $\mathbf{1 3 9}_{31-2}$ and 1981 30-r.
37 On these notarial statements see $\mathbf{4 5 3 5}{ }_{4} \mathrm{In}$. and the work by Dietharl and Worp referred to there. My reading agrees with that of Grenfell and Hunt for 139 and 1981. Dicthart and Worp interpret the writing slightly differently. They list examples of notaries named John from the Oxyrhynchite nome on pp. 81-2. Our man is their 9.9 , whom they recognise in $\mathbf{1 3 9} 33,198132$, PSI I 52.38 and 62.27 ; I should be inclined to regard P. Laur. 75 also as the work of the same man (in I 192, which is not in Diethart and Worp, the notarial statement is lost).
 list of occurrences is given in P. L. Bat. XXV 75, introd.
 different wording on the back of 1981 see above，lines $32-3 \mathrm{n}$ ．

4537．Measurements of a Cistern
53 IB． $26(\mathrm{~F}) / \mathrm{G}(3) \mathrm{a}$

This complete and well preserved document gives us information about the size and shape of a 入ф́ккос，an underground cistern used to store water for the irrigation of the fields．From the 入а́ккос the water was lifted up by a säqia and then distributed via channels to the fields．For the construction of cisterns see L．Ménassa and P．Laferrière，La Säqia （Cairo 1975），I－23；LV $3804{ }^{221}$ n．Further bibliography for irrigation devices is in LIV 37717 n ．Digging was done in the dry period and needed to be completed by June．The interiors were lined with bricks or stones；for bricks cf．XVIII 2197，while PSI I 88 gives the cost as I solidus for 1600 bricks．On the Apion estate we find cisterns of more solid construction：large stones were brought for them，see I 134，XVI 1911；in 134 i solidus was paid for 200 large stones，and in 1911 i solidus less 5 carats for 150 stones．
 are actually given the dimensions of two projects，different in size but similar in shape， narrow at the bottom and wider at the top，which were completed on Pachon $29=$ 24 May．àvopux $\theta$ érroc may indicate that the papyrus only refers to the excavation stage， cf．LV 3804 21 3；contrast 4538 which must refer to built work．The first excavation＇s dimensions are：upper width 24 cubits，lower width 22 cubits，depth 6 cubits giving a volume of $88^{1}{ }_{6}$ naubia．The $\mu \hat{\eta} \kappa \circ$（（Cf，12）was omitted here but can be calculated as ${ }^{1} 7^{1}{ }_{4}$ cubits．The size，more than three times that of the second excavation，allows us to conclude that this was the main underground reservoir．The second excavation， called davaßarnpia in II，was 3 cubits in depth，half that of the first，somewhat longer at 27 cubits，and with strongly sloping walls（upper width ro cubits，lower 6 cubits）．

The meaning of ảvaßađךpiáa is uncertain．Here，obviously，it describes a comparat－ ively（in comparison with the first excavation）shallow and narrow trough，but the precise function of this trough remains unclear．It is not certain that it would have been vaulted over when finished，as would the main reservoir，cf．4538．See in n．

The back is blank．
$\dagger \mu \epsilon \tau \rho \eta \dot{c}(\epsilon \epsilon c)$ тov̂ ảv$\nu \rho \nu \chi \theta($ évтoc）véov خáкк（ov）



$5 \dot{\epsilon} \pi i \mu \eta(\nu o ̀ c) ~ \Pi a \chi \omega ̀ \nu \kappa \theta$ iv $\delta(\iota \kappa \tau i ́ o v o c) \gamma$
$\dot{v} \delta \rho о \pi \alpha \rho \sigma \chi(i ́ a) \delta i v \delta(\iota \kappa \tau i ́ o \nu O c) ~ o v(\tau \omega c)$ ．

| ä $\nu \omega \pi \lambda \alpha ́ \tau o c$ | $\pi \dot{\eta} \chi(\epsilon \iota c)$ | $\kappa \delta$ |
| :--- | :--- | :--- |
| $\kappa \alpha ́ \tau \omega \pi \lambda a ́ \tau o c$ | $\pi \eta \chi(\epsilon \iota c)$ | $\kappa \beta$ |
| $\beta \dot{\alpha} \theta o c$ | $\pi \eta \dot{\eta} \chi(\epsilon \iota c)$ | $\varsigma$ |

$\epsilon$ Єic עav́धı（ $a$ ）$\pi \eta \varsigma^{\prime}$


| $\mu \hat{\eta} \kappa(o c)$ | $\pi \dot{\eta} \chi(\epsilon \iota c)$ | $\kappa \zeta$ |
| :--- | :--- | :--- |
| ä $\nu \omega \pi \lambda \alpha ́ \tau o c$ | $\pi \dot{\eta} \chi(\epsilon \iota c)$ | $i$ |
| $\kappa \alpha ́ \tau \omega \pi \lambda \alpha ́ \tau o c$ | $\pi \dot{\eta} \chi(\epsilon \iota c)$ | $\varsigma$ |
| $\beta \dot{\theta} \theta o c$ | $\pi \dot{\eta} \chi(\epsilon \iota c)$ | $\gamma$ |

єic vav́ $\epsilon$（ $\alpha$ ）к $\delta$
$\gamma i(\nu \in \tau \alpha i) \dot{\delta}(\mu \circ \hat{v})$ vávєl $(a) \rho i \nmid \beta s^{\prime} \in i c$
$\nu o(\mu \iota с \mu \alpha ́ \tau \iota a) \gamma \gamma^{\prime}$ ．

＇Measurements of the new cistern excavated in the irrigated area called＇of the Cistern＇in the charge of Paul，priest，and Heraclius，farmers of the holding of Leon， on the 29th of the month of Pachon of the 3rd indiction for the water supply of the $4^{\text {th }}$ indiction，as follows：

| ＇Upper width | 24 cubits |
| :--- | :--- |
| ＇Lower width | 22 cubits |
| ＇Depth | 6 cubits |

Depth
6 cubits
（Which converts）to naubia $88^{1}{ }_{6}$
＇And of the anabateria，as follows：

| ＇Length | 27 cubits |
| :--- | :--- |
| ＇Upper width | Io cubits |
| ＇Lower width | 6 cubits |
| ＇Depth | 3 cubits |

＇（Which converts）to naubia 24
＇Total altogether，naubia II $2_{6}^{1}$
＇（Which converts）to solidi $3{ }^{1}{ }_{3}$ ．＇
I－2 The 入áккос is called＇new＇because the irrigation setup here already contained one，after which it was named．For named $\mu \eta \chi$ वvai cf．e．g．I 137，XIX 2244 and PSI I 6 o．
 this is the same person. For $\dot{v} \pi{ }^{\prime}$ in this context cf. e.g. LV 3804213.

4 The holding of Lcon is well known, see P. Pruncti, I centri abitati dell' Ossirinchite 94; add LV 380543.
 naubia.
Io vavel(a). For the spelling see Gignac, Grammar I 70. The naubion is a cubic measure containing 27 Io vavet(a). For the speling see Gignac, Graa
cubic cubits, see H. C. Youtie, Scrittiunculae I rog.

The omission of the length here necessitates a roundabout calculation. $88^{1}{ }_{6}$ naubia imply $2380^{1}{ }_{2}$ cubic cubits ( $88{ }^{1}{ }_{6} \times 27$ ). The width at 23 cubits (average of the upper and lower widths) $\times$ the depth 6 cubits $={ }_{1}{ }^{2} 8$ square cubits. Dividing this into the implied $2380^{1}{ }_{2}$ cubic cubits supplies the missing length, $17^{1}{ }_{4}$ cubits. Obviously this could be cepressed more rapidy by an algebraic equation
The depth in 9,6 cubits, is the same as that for the $\lambda$ ג́ккос in 4538. It seems odd to us that the length is less than the width. It must have secmed appropriate to apply $\pi \lambda$ ároc to the sloping sides, even when that dimension was the greater of the two.

II d.vaßarnpiac. Attested elsewhere only in P. Oslo III III.127, 129 with the note on p. I53. P. Flor. I
 àvaßautuĉv, translated 'water-supplies both natural and mechanical'. Ultimately, it remains unclear whether these avapaiv $\omega$-derived words should be understood as active
the irrigation function of avaßainpia remains uncertain also.

I6 Sce ion. The arithmetic is correct: 27 cubits $\times 8$ (average of the upper and lower widths) $\times 3=648$ cubic cubits, $\div 27=24$ naubia.
17-18 For the cquation naubia: solidi cf. VII 1053 (sixth or seventh century), where a rate of 50 naubia per solidus is given, in perhaps similar circumstances, against $33^{2}$ herc. Presumably the solidus-figure represents the cxcavation costs. Cf, 45389 n . wherc the rate appears to be approximately $\mathrm{II}^{1}{ }_{2}$ naubia only per solidus; that is for construction work seemingly, not just excavation work as conjectured here.
A. SYRCOU
4538. Measurements of a Cistern

65 6B. $38 / \mathrm{C}(9-1 \mathrm{r}) \mathrm{b}$

This document contains measurements of a 入а́ккос, cf. 4537. The cistern in 4538 was rectangular, its length 50 cubits, width $14{ }_{2}{ }_{2}$ cubits, depth 6 cubits and its volume just over I6I naubia. Its sides were vertical and, as is indicated by ка $\alpha \dot{\rho} \rho$ ( I ), it was vaulted over.

The lower part of the text is lost. The back is blank
$\dagger \hat{\varepsilon} \mu \epsilon \tau \rho \dot{\eta} c(\epsilon \iota c) \tau \hat{\eta} \subset \kappa \alpha \mu \alpha ́ \rho \alpha c \tau о \hat{v}$
$\lambda \alpha ́ к \kappa(o v) \tau \hat{\eta} с \mu \eta \chi \alpha(\nu \eta ิ c)$ Nи́cov
 ou゙ $\tau \omega$.
$5 \mu \hat{\eta} \kappa(o c)$
$\pi \lambda a ́ \tau(o c)$
$\beta \dot{\alpha} \theta(o c)$
$\pi \eta \not \chi(\epsilon \iota \subset) \quad \nu$
$\pi \dot{\eta} \chi(\epsilon \iota C) \quad i \delta \mathrm{~L}$
$\pi \eta \eta^{\prime}(\epsilon \iota c)$ ร
$\gamma i(\nu \in \tau a \iota)$ vav́єı $(\alpha) \rho \xi \alpha^{\theta^{\prime} \text { v } \delta}$
$\tau \hat{\omega} \nu \nu a v \in i(\omega \nu) \quad \stackrel{\iota}{2} / / \nu \nu(\mu \iota c \mu \alpha ́ \tau \iota \alpha)$


$2 . \lambda а к \kappa$
6 тлатs
'The measurements of the vaulted chamber of the cistern of the irrigated area o Nesu Lachanias on the 17 th of the month of Payni of the 13th indiction, as follows:

| 'Length | 50 cubits |
| :--- | :--- |
| 'Width | $14^{1}{ }^{1}$ cubits |
| 'Depth | 6 cubits |

${ }^{6}$ Total ${ }_{I} 6 r^{1}{ }_{9}{ }^{1}{ }_{54}$ naubia.
'For the naubia $14(?)$ solidi.'

 to be used both for a vault and by extension for the chamber with the vault. In the present text, clearly only the extended meaning is appropriate. For qaik' in the sensc simply of the 'vault', and in connection with a
 тоо ла́ккоv, is more equivocal.
2-3 Nócoo Aaxavíac. A well known Ėmoíkcov, see Calderini-Daris, Diz, geogr. III 350; P. Pruneti, I centru abitati dell' ' Sssirinchite 120; add LV 380535 and n., and P. L. Bat. XXV 80 A II 6 .
8 The total here is not quite accuratc for the dimcnsions given in lines $5-7.50$ cubits $\times 14^{1}{ }_{2} \times 6=4350$ cubic cubits, $\div 27$ (for the size of the naubion, $3 \times 3 \times 3$ cubits, sec 4537 to n.) $=161^{1}{ }^{1}$ naubia. The extra ${ }^{1}{ }_{51}$ naubion implies an cxtra ${ }_{2}$ cubic cubit, but this is not to be obtained from the dimensions in the text.
9 Comparing 4537, after the total volume of the.cistern we cxpect the mention of the amount of money paid for its construction. For the size of 16 I naubia, at the same rate as in 4537 we would expect $4^{3}{ }_{4}$ solidi. We have the abbreviation for $\nu o(\mu \iota c \mu a ́ \tau u a)$ clearly, but no figurc was written after it. Our apparent figure of 14 is thus not only much higher than the ratc in $\mathbf{4 5 3 7}$ but oddly placed before $\nu o(\mu \kappa c \mu \dot{\pi} \tau \alpha a)$. Before $t$, there justifable on the basis that каuuá $\rho a$ implies construction work, whereas in 4537 avoovx $\theta$ (évroc) may imply excavation work only.
A. SYRCOU

## 4539-4543. Invitations to Dinner

The five dinner invitations published here form an interesting addition to the corpus. As well as three invitations to dine at previously attested occasions-an epicrisis, a Sarapis banquet and the ${ }^{\ell} \in \rho \rho \mu \alpha$ " $I c i \delta o c$-there are two invitations to a festival for girls, the $\theta \epsilon \rho a \pi \epsilon v \tau \eta \dot{p} \rho a$.

Dinner invitations from Oxyrhynchus are listed by Skeat, 7EA 6I (1975) 253 note 2, to which should be added I 181 descr. (BASP 3 I (1994) 44 7), the texts listed by H. Cocklc in LII 3693 introd., ZPE 35 (1979) I31-2, P. Köln VI 280, SB XVIII 13875 and LXII 4339. Invitations are expressed formulaically, but the reasons for the invitation being sent and the venue for the celebration vary considerably. Invitations fall into two categories: for festivals of a definite religious nature, and to private celebrations for events such as weddings.

4539-43 show few divergences from the usual format, with the name of the host stated but that of the guest omitted, followed by the reason for the dinner, the venue and the date (usually the next day or the same day), expressed as a numeral. The time in all our documents is the standard one, the ninth hour, or between two and three in the afternoon.
4539. Invitation to an Isis Festival

## 101/178(b)

$8.6 \times 3.5 \mathrm{~cm}$
Second/third century Plate XX

A well preserved invitation to the $i \in ́ \rho \omega \mu \alpha$ of Isis, written in a neat upright hand.
The format of this invitation parallels exactly that of P. Fouad 76 , so far our only other invitation to, or indeed mention of, this festival of Isis. The only divergences are the venue (a private house in the Fouad text, in ours the Iseum), and the dates, respectively the 29th and the 8th. Unfortunately these dates cannot be assigned to particular Isis festivals with any certainty. The 29th might suggest Choiak 29, the date of the Cicellia in the Canopus inscription (OGIS 56), although this festival was as much Osiriac as Isiac in character (see R. Merkelbach, Isisfeste in griechisch-römischer Zeit: Daten und Riten (Ig63), 37-8). I have been unable to find any specific feast of Isis for the 8th. The great Mлоьaфє́cıa or Navigium Isidis began on Phamenoth 9, an important Isiac observance, and it is conceivable that devotees could have met the day before for a ritual meal. IV 731 may refer to regular monthly festivals, commencing on the 9th and lasting two days. Protracted Isis-festivals followed by sacred meals are mentioned in Apuleius, Metamorphoses xi, 24.

The vague term líp $\omega \mu a$ is similarly unhelpful in trying to determine the nature of the feast. Major festivals of Isis were usually designated by name, see H. C. Youtie's re-edition of the Heidelberg Festival papyrus, Scriptiunculae I 530-32.

A point of interest is that the host of the banquet is a woman, as is Sarapous in the parallel invitation. It is probably not particularly significant in this context that both women bear Egyptian theophoric names.

The back is blank.
$\hat{\epsilon} \rho \omega \tau \hat{c}$ cє Tav̂pıc $\delta \epsilon t \pi \nu \eta \hat{\eta}$
саи єic $\mathfrak{i \epsilon} \rho \omega \mu \alpha$ тर̂с кvрíac

$\dot{\alpha} \pi o ̀ \omega \rho(\alpha c) \theta^{-}$.

'Tayris invites you to dine on the occasion of the offering to the lady Isis, in the Iseum, on the 8 th, from the 9th hour.'

3 For the Iscum see J. Krüger, Oxyrhynchos in der Kaiserzeit ro3; G. Ronchi, Lexicon Theonymon III 528-9; J. E. G. Whitehorne, $A N R W$ II $18.5,3073-4$.
D. MONTSERRAT
4540. Invitation to a Sarapis Meal

| roi $/ 55(\mathrm{c})$ | $9.1 \times 4.7 \mathrm{~cm}$ |
| ---: | :--- |
| Third contury? <br> Plate XX |  |

On this very worm-eaten and abraded strip of papyrus is an invitation to dine at the kline of Sarapis in the usual format. A list of these invitations was given by M. Totti in Ausgerählte Texte der Isis- und Sarapis-Religion (1985), 125-127. For a discussion see the introd. to P. Coll. Youtie I ${ }_{5} \mathrm{I}-2$. This invitation is to be classed with XIV 1755, P. Coll. Youtie I 52 and LXII 4339 as taking place in the oikos of the Serapeum.

Of all invitation types, those to dine at the $\kappa \lambda i v \eta$ Capám $\iota \delta$ oc are the most numerous and have attracted the most attention. Opinions as to the significance of the banquet have ranged from seeing it as a purely secular event, a sort of dining society (J. Milne, JFEA I I (1925), 6-9) to L. Koenen's idea that its religious character was paramount and that the dates of extant кגivך Capómiסoc invitations could be related to specific Isis festivals ( $Z P E_{\text {I }}$ (I967), I2I ff.). The editors of P. Oslo III 157 thought that all Sarapis meals would have had some religious connotation, but that they would have had a more avowedly religious character when held in temples or temple dining-rooms than in private houses. This was echoed by H. G. Youtie, HTR 4 I (1948) 9 ff . ( $=$ Scriptiunculae I 184 ff.). Although I would not agree with Milne that the kline of Sarapis was purely
secular, he was probably right to emphasize its social significance. Therefore it is possible that the function of the banquet varied from occasion to occasion. Probably some of the invitations are for cult dinners at specific Sarapis festivals like the one in P. Mich VIII 5 II, the preparations for which began two months in advance and which was primarily religious. The date of the banquet in $\mathbf{4 5 4 0}$ is the eighth of an unspecified month; possibly this could be associated with $\mathbf{4 3 3 9}$ (the ninth), XXXI 2592 (the tenth) or P. Coll. Youtie 52 (the eleventh).

Some interest is afforded by the name of the host, Dionysalexandrus. A second century hypothesis of Cratinus' comedy Dionysalexandrus was found at Oxyrhynchus (IV $\mathbf{6 6 3}=$ Pack $^{2} 25^{2}$ ), but this is the first documentary attestation of the name there.

The papyrus' poor state of preservation and the featurelessness of the hand make it rather difficult to date, but I would assign it to the third century rather than the second. The back is blank.

$\delta \epsilon \iota \pi \nu \eta \hat{\eta} \alpha \iota \epsilon[[c] \kappa \lambda \epsilon i \nu \eta y$ vô̂ $\kappa v-$


5 тiv $\eta^{-} \alpha \pi$ ọ̀ $\stackrel{\omega}{\omega}[\rho]$ ac $\theta^{-}$.
2 1. $k \lambda \lambda \eta \eta \nu \quad$ :
'Dionysalexandrus invites you to dine at the table of the lord Sarapis in the diningroom of the Serapeum, tomorrow, which is the 8th, from the 9 th hour.'
 useful rcfercnccs for oikoi and temple dining-rooms. For the Scrapeum at Oxyrhynchus see J. E. G. Whitchornc,
ANRW II $8.5,3078-9$; references for Oxyrhynchus and elsewherc arc in G. Ronchi, Lexicon Theonymon IV 947-V 964.
D. MONTSERRAT
4541. Invitation to an Epicrisis Feast

101/211(a)

$$
6.6 \times 2.5 \mathrm{~cm}
$$

Similar invitations to celebratory banquets connected with the epicrisis are VI 926, XXXVI 2792 and XLIX 3501. The gymnasial epicrisis continues long after the Constitutio Antoniniana, cf. P. Mich. XIV 676 (272) and P. Turner 38 (after 274).

The back is blank

## $\dot{\epsilon} \rho \omega \tau \hat{\alpha}$ cє $\delta \iota \pi\rangle \hat{\eta} \subset \in$ Capari $\omega[\nu]$


viô̂ aùtov $[\hat{\alpha}] \pi o ̀ ~ \stackrel{\omega}{\omega} \rho(\alpha c) \theta$.

1. $\delta \epsilon \epsilon \pi \nu \eta \hat{c} c a i \quad 2$ кamı $\omega^{\lambda}, \epsilon \pi t^{\kappa} \quad 3$ viov, $\beta \quad$ Crossbar of $\theta$ cxtendcd
'Sarapion invites you to dine in the Capitolium on the occasion of the epicrisis of his son, from the gth hour.'

2 For references to the Capitolium at Oxyrhynchus, see LIV 37573 n.is. E. G. Whitehornc, $A N R W$ II 18.5, 3084. For the Eastern Stoa where it was locatcd (XVII 2109) sce LXIV 4441

3 No indication of the day is given: cf. P. Fay. I32.
D. MONTSERRAT

## 4542-3. Two Invitations to a Festival for Girls

These invitations are both written across the fibres. The backs of both are blank.
The occasion of the feast is the therapeuteria, a word not in LSJ which has hitherto appeared in papyri in P . Oxy. Hels. 50.17 in a context which suggests feasting: $\pi \epsilon \rho i \delta \dot{\epsilon}$
 in P. Lond. inv. 3078, republished by D. Montserrat, $\mathcal{F}$ FA 76 (1990) 206-7, who proposes $\delta \epsilon \iota \pi \nu \eta \hat{c}(\alpha[\iota \epsilon i c \quad \theta \epsilon \rho a \pi \epsilon v \tau \eta=-] \rho \iota \alpha$. P. Flor. III 279 (a sixth-century lease of land) transcribes the singular тô̂ $\Theta \in \rho a \pi \epsilon v \tau \eta \rho i o v$.

The word therapeuteria obviously derives from $\theta \in \rho a \pi \epsilon v i \omega$, of which the meanings at this date range from 'to do service, pay attention to' (sometimes in a ritual context) to 'cure'. The literary sources give no real help. In 'Jo. Chrys.', in operarios undecimae

 $\tau \rho \cup \phi \eta \tau \dot{\eta} \rho \iota a$ are prepared for the crusaders. In both, it seems that $\theta \epsilon \rho \alpha \pi \epsilon v \tau \eta \dot{\eta} \rho \circ \nu$ means 'a place for $\theta \epsilon \rho \dot{\alpha} \pi \epsilon \cup с ו c '$ - perhaps medical attention in the first, bodily comforts in the second. More relevant is a corrupt gloss in Cyril (Hesych. $\theta 370$ Latte), $\theta \epsilon \rho \tau \eta \rho \rho \iota a: ~ \in о \rho \tau \eta ~$ $\tau \iota c$, which Meineke restored as $\left\langle^{2} A \nu>\theta \epsilon \epsilon \tau \eta \rho \iota a\right.$, Latte as $C_{\tau \epsilon \pi \tau \eta} \rho \iota a: \theta \epsilon \rho<\alpha \pi \epsilon v>\tau \eta \rho \iota a$ might be a better suggestion.

One possible context would be religious observance. The Suda has an interesting entry under $\theta \epsilon \rho a \pi \epsilon v \tau \hat{\eta} \rho \epsilon c:$ oi $\tau \hat{\omega} \nu i \epsilon \rho \hat{\omega} \nu \pi \rho o i ̈ c \tau \alpha ́ \mu \epsilon \nu o \iota, ~ \theta \epsilon \rho \alpha \pi \epsilon v \tau a i " I c \iota \delta o c \pi \alpha \rho$ ' Ai$\gamma v \pi \tau i ́ o c c$. Groups of $\begin{aligned} & \text { є } \rho a \pi \epsilon v \tau a i \\ & \text { are }\end{aligned}$ widely attested in the hellenistic and Roman East; for Egypt, see UPZ I p. 52. Another might be medical, so that this was a celebration for being cured. If the former, it may be that the therapeuteria was somehow connected with puberty; the girls in these documents must be unmarried, since their fathers are the hosts at the feasts. See D. Montserrat, Sex and Society in Graeco-Roman Egypt 45-6.
$\epsilon \in \rho \omega \tau \hat{\alpha}$ сє Cєоvท̂poc
$\delta \in \iota \pi \nu \eta \hat{\eta}<\alpha \iota$＇̀v $\tau \hat{\eta}$ oi

тєvтท́pıa Өvүaтрòc



6 8
＇Severus invites you to dine in his house on the occasion of the therapeuteria of his daughter today，that is the 19 th（？），from the 9 th hour．＇

## $100 / 77$（a）

## 4543

The papyrus is considerably larger than usual，and has generous margins：the blank space at the bottom is 3 cm ，the left margin about 1.5 cm ．Nevertheless，this invitation is not of the＇formal＇type exemplified by IX 1214，LII 3694 and the later P．Apoll． 72.

$\theta v \gamma a \tau \rho o ̀ c ~ a v ̉ \tau o \hat{v} \llbracket \subset \eta ́ \mu \epsilon \rho \circ \nu . . . .{ }^{\iota}$ ．．ov】 єic $\tau \grave{\eta} \nu$

＇Ischys invites you to the therapeuteria of his daughter 【today ．．．】 in the house opposite his，on the 17 th，from the 9 th hour．＇

I kà̀ei，although less usual than ép $\rho \boldsymbol{\tau} \hat{\imath}$ ，is still formulaic：cf．XII 1486，XVII 2147

＇Icxoc．Cf．P．Prag．II r41 I．5？
$2-3$ The time and possibly also the venue of the feast have been changed：one is reminded of the postponed therapeuteria in P．Oxy．Hels． 50.

D．MONTSERRAT

4544．Private Letter：Eudaemon to Hegumenus
$465^{53.5^{1 / F}(24) \mathrm{b}} \quad 12 \times 26.5 \mathrm{~cm} \quad$ Third century
This private letter was written on the back of the tax account offcut 4527 above （dating from after 28 August 185），across the fibres and upside down relative to 4527. There is no address．
$\chi \alpha \hat{\imath} \rho \epsilon \kappa$ ќ́pté $\mu o v$
＇Hyoú $\mu \in \nu \in \pi(a \rho a ̀) ~ E v ̉ \delta a i ́ \mu о \nu о с . ~$

סє́ठшка тà $\beta^{-}$кєра́ $\mu \iota a$
5 Паськậ $\tau \hat{\omega} \nu \dot{\text { c }} \lambda \lambda \epsilon \hat{\omega} \nu$
ìva col ả $\pi$ oठô̂．à $\lambda \lambda \grave{\alpha}$
каì тò є́pүат兀кòv то仑̂
$\mu a \gamma \epsilon i ́ p o v$ cov ơcov ov̋ $\pi \omega$
$\ddot{\eta} \pi \epsilon ́ \mu \psi \omega$ ทั конו $\hat{\omega}$ ，ठั $\tau \alpha \nu$

$\gamma \epsilon \beta$ оú $\lambda \epsilon \iota \pi \rho o ̀ c$ cè $\gamma \epsilon \nu \epsilon \in \subset \theta a \iota$ ．
$\tau \hat{\varrho} \alpha \dot{\alpha} \gamma \alpha \theta \omega \tau \alpha \dot{\tau} \omega X \rho \eta \subset \dot{\mu} \mu$



тí $\beta$ оú $\lambda \epsilon \iota \pi \rho i v \tau \alpha \xi[. . . . ..] . . .$.


Down the left margin：

（m．2？）

$$
\text { '́ } \rho \rho \hat{\omega} c \theta \alpha i ~ c \epsilon \in \cup ้ \chi o(\mu a l) \text {, кv́ } \rho \iota \epsilon ́ \mu о v .
$$


＇Greetings，my lord Hegumenus，from Eudaemon．I have arrived in the Heracleopolite（？）and I have given the two jars to Pasicas，I mean the jars of olives，so that he may give them to you．However，your cook＇s wages（？）I shall either send or bring without delay，whenever you have someone write to me，if indeed you want it to go to you（？）．I took the order for the excellent Chresimus there and have given it to the same Pasicas．If it so please you，write to me what you want before ．．．they want to take ．．．＇
(Margin) 'Don't pay anything to the man who gives you the olives. I pray for your health, my lord.'

I $\chi$ aîp $\kappa \dot{p} \rho \epsilon \epsilon \mu \nu v$. This opening occurs in letters from the and to the zrd century ad, see F. H. J. Exler, A Study in Greek Fpistolography 35-6. It is not used for official letters, but for private ones. This would favour
 For the personal name cf. P. Heid, IV 325-1 (Oxyrhynchite, after 6 January 215) and n . It is also clearly a parsonal name in PSI XII 1238 (2 Septcmber 244).
On the other hand, the normal form of the city name is 'Hpasteuc 217-9, 220-4.
5II Пackiḳ. The name is attested elsewhere only in P. Münch. III 146 iii 19 (II AD) and P. Ross. Georg. III I. 25 (III AD), in the genitive Пасıка̃roc; for the declension, see Gignac, Grammar I 276-7; II 16-18.
 produces P. Bad. II 26.6, P. Cairo Goodsp. 30 xxxvii I6, P. Corn. 3.15, P. Lond. III II 1 \% verso 432, SPP X ${ }^{25 I}$ I 6 and SB I 4921.5. None of these texts supplies a clear meaning. Cf. also 4530 30,

8 öcov oûme. Yor this idiom see LSJ s.v. öcoc IV. 5 .
I2 kya $\theta \omega \tau \alpha \dot{\alpha} \omega$. This superlativc form, cquivalent of $\beta \epsilon \lambda \tau i c \tau \omega$, is found among later classical authors and
 apply only to persons, which is not true of $\beta \in \lambda \tau \iota c \tau a c$.
${ }^{13}{ }^{\text {E.eviditovy. Cf. P. Brem. } 20.8 \text {, P. Hamb. II }} 192.6$ and O. Bodl. II 2525 .r, where the square bracket faces the wrong way. Èvoodifoov occurs in XIV 1767 17-18.
${ }^{15} h_{\nu}$ for $\hat{\eta}$, as often, see Gignac, op. cit. 11405 .
ang to write Boúdovral instead of $\theta \hat{\text { édoucch }}$, having in mind still the
i8 $\delta \omega \bar{c}$ ? Given the writer's use of the form $\bar{a} \pi 0 \delta o \hat{\imath}(6)$, perhaps $\delta \omega c=\delta o ́ c$ is more probable.
P. SCHUBERT

## INDEXES

Figures in small raised type refer to fragments, small roman numerals to columns Square brackets indicate that a word is wholly or substantially restored by conjecture or from other sources, round brackets that it is expanded from an abbreviation or a symbol. An asterisk denotes a word not recorded in LS7 or Suppl. The article is not indexed.
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| P．Wash．Univ．II 83.2 | 45293 n ． |

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[^0]:     cọ о $\overline{\theta c} \epsilon[\iota<~ \tau о \nu ~ a \iota \omega v a ~ к а ı ~ \eta ~ \rho а \beta \delta о с ~ \tau \eta с ~ є v \theta u \tau \eta \tau о c] ~$
    
    
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[^1]:    
    6 1. à $\lambda \lambda \eta \lambda \epsilon \gamma \gamma$ únc $^{15} 7 \mathrm{ctc}$
    
    
    

[^2]:    
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